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ART. I. *Medical Statistics; consisting of estimates relating to the Population of Philadelphia, and its changes as influenced by the Deaths and Births, during a period of ten years, viz. from* 1821 *to* 1830 *inclusive.* By G. EMERSON, M. D.

SINCE the publication of the views in relation to the medical statistics of Philadelphia, presented in a former volume of this work, a new census has been taken and other data offered, which admit of an extension of the investigations to a further period—the commencement of the last year. The results developed by a continuation of the calculations, are of a highly interesting nature. Among them the most striking are, the increased rate of mortality within the last ten years, from epidemic causes that have but recently subsided, and the correct ratio of deaths for the coloured population, which, for reasons previously explained, was necessarily founded in some measure upon assumed data. Added to the time contained in former estimates, our calculations now embrace a connected series of twenty-four years, namely, from the year 1807 to 1830 inclusive.

Population.

As a proper prelude to our inquiries, we present an abstract from the recent census, so as to show the number and description of inhabitants included within the built parts of the town, and from which the returns of interments are made. For the information of those unacquainted with the municipal divisions of Philadelphia, it may be useful to observe that the city proper, or that portion under the controul of the mayor and councils, embraces but about one-half of the population of the whole town—the limits of the original incorporation

having been overrun in various directions. The parts subsequently built, instead of being united to the original incorporation, are formed into several distinct districts, each invested with corporate privileges.

An act of the state legislature, however, extends the provisions of the Health Law over the whole, so that the districts, as well as the city, have their representatives in the Board of Health. Those who attempt calculations of the comparative mortality of Philadelphia, without a precise knowledge of the districts which make returns of their interments to the Health Office, must necessarily be led into erroneous conclusions. For should the sum of the annual mortality be compared with a less amount of population than the returns of interments are made from, the ratio of deaths must appear greater than it actually is, and vice versa, should the contrary circumstances prevail. Gross errors, from such causes, for the most part, have already been committed by persons at a distance, and circulated very extensively both in this country and in Europe. Some of the publications alluded to have represented the mortality of Philadelphia as exceeding that of the other principal cities in the United States, whereas it has been shown to present as low, if not a lower rate than any one of them; we mean under ordinary circumstances, and in the absence of those epidemic visitations to which all places are subject.

Reckoning the whole population for the city and county, without reference to distinction of colour, the total amount is 188,961, of which number 90,332 are males, and 98,620 females. Adopting the distinction, the whites amount to 173,345, the blacks to 15,616. The increase of the entire population within the city and county conjointly, since the year 1820, is 51,864, being in the ratio of 37.8 per cent. for the whole period, or an average of $3\frac{1}{4}$ per cent. per annum.* The white increase estimated separately amounts to 49,599, or 40 per cent. for the ten years, being at the rate of about $3\frac{1}{2}$ per cent. per annum. The increase of blacks alone for the ten years is 3732, being at the rate of about $31\frac{1}{2}$ per cent. or $2\frac{3}{4}$ per cent. per annum.†

But it is that portion of our population embraced within the limits of the bills of mortality, which interests us most particularly. This alone is exhibited in our abstract, or table marked A. and amounts

* This ratio, it must be observed, is computed upon geometrical principles, as approaching nearest to the rate at which population ordinarily increases, and not upon the arithmetical usually resorted to.

† Much interesting information relative to the changes and *denseness* of population in the city and county of Philadelphia, may be found in Hazzard's Pennsylvania Register, Vol. 8.

without distinction of colour, to 167,811. Compared with the population existing in 1820, we find an increase of 40.6 per cent. within the last ten years.

The *white* population considered separately, shows an increase greater than the general ratio just mentioned. The total amount is 153,169, and the increase during the ten years is 41.6 per cent. Estimating the sexes separately, there are 73,547 males, and 79,622 females, so that the last exceed the first in the ratio of 8¼ per cent. or in other words, there are about 100 females to 92 males.

We find the ages of each of the sexes distributed into thirteen periods, commencing with those of and under the 5th year, then giving the number between the 5th and 10th, the 10th and 15th, the 15th and 20th, the 20th and 30th years, and so on to the most protracted periods of life. On comparing this division with that adopted when the former enumerations were made, it will be found to differ very materially, more than double the number of periods being given.

With the whites, the number of both sexes at different ages, compared with the total amount at all ages, stands thus:—All those

Of and under	5 years,	constitute	14.6 per ct.	of the whole population.
Do.	10	"	26.9	do.
Do.	15	"	37.6	do.
Do.	20	"	50.3	do.
Of and over	30	"	28.1	do.
Do.	40	"	14.6	do.
Do.	50	"	8.	do.
Do.	60	"	3.2	do.
Do.	70	"	1.08	do.
Do.	80	"	0.28	do.
Do.	90	"	about 4.5 per 10,000.	
Do.	100	"	about 6.5 per 100,000.	

In the period first marked, namely, that including all of and under the 5th year, the males exceed the females about 5 per cent.* but in that which includes those between the 5th and 10th years, the male excess has diminished so as to be only about 1 per cent.

In the next five years, namely, between the 10th and 15th years, the females exceed the males about 8 per cent. and from this last named period to the 50th year, the excess continues pretty steadily in the ratio of from 8 to 10 per cent. Afterwards, however, it increases greatly, so that

* An examination of the table of births will show that the number of males at birth exceeds that of the females more than 7 per cent.

Between the 50th and 60th yr's, the females exceed the males 34 per ct.
" 60th and 70th " " " 59 "
" 70th and 80th " " " 90 "
" 80th and 90th " " " 79 "
" 90th and 100th " " " 40 "

Of those who had attained and exceeded a century, seven were females and three males.

The *Blacks* constitute about 8.7 per cent. of the whole population within the limits embraced by the bills of mortality. They have increased within the last ten years 28 per cent. or in a ratio of about 2.7 per cent. per annum—a much lower rate than that of the whites.

The whole amount included in our abstract is 14,642, of which 6307 are males, and 8335 females. The disparity between the sexes is therefore far greater than we find in the white population, the excess of females amounting to 32 per cent. or nearly a third. This is partly owing to the circumstance of the services of females being in more general demand in cities than in the country, and partly to the greater mortality of the males. The distribution into periods differs from that adopted for the whites, only six being given, instead of thirteen. The first designated is the 10th year, and the females of and under that age, exceed the males about 5 per cent. In that
Between the 10th and 24th years, the female excess is about 61 per ct.
" 24th and 36th " " " 36 "
" 36th and 55th " " " 16 "
" 55th and 100th " " " 38 "

With the black population, the number of both sexes at different periods of life, compared with the total amount at all ages, stands thus:—

All under 10 years, constitute 21.7 per cent.
" 24 " " 50.6 "
All *over* 36 " " 22.1 "
" 55 " " 5.9 "
" 100 " " 1.7 or nearly 2 per 1000.

Of those that had attained 100 years and over, 14 were males and 12 females. It is curious to observe, that notwithstanding their small numbers when compared with the whites, they greatly exceed the latter in the proportion of their centenarians, and that with the blacks the number of male centenarians exceeds that of the female. From the difficulty which frequently occurs of ascertaining the ages of blacks with certainty, it is possible that more of them are reported among the instances of extreme longevity, than are entitled to the distinction.

Births.

In our former publication we were only enabled to present an account of the births for six years. We can now extend the period so as to embrace ten years, namely, from 1821 to 1830 inclusive. As the accuracy of the data upon which our calculations are founded, depends for the most part upon the character of those by whom the returns are made, that is to say, the accoucheurs, we think it proper to premise that the obstetric practice of Philadelphia is mostly in the hands of the physicians. In the last year, for instance, the register at the Health Office contained the names of one hundred and fifty-five practitioners of midwifery for the city and suburbs, of which number only twenty-one were females, the remaining one hundred and thirty-four being regular physicians, of whom some possess a very limited portion of practice, whilst others have a very great monopoly. Of the total number of births for the year mentioned, viz. 7628, the amount delivered by the female accoucheurs was 1061—leaving the balance of 6567 to be divided among the male practitioners. It thus appears that most of the returns of births are made in Philadelphia, by those whose standing for probity and intelligence should entitle their statements to credit. Whether all the births which take place are reported, is, we think, somewhat doubtful, though the number omitted may not be very large. The average proportion compared to the population, is about 4.42 per cent. per annum.

Upon running the eye along the columns of table B. we are struck with the variations appearing from year to year, not only in the totals, but in the respective proportions of the sexes. There is also a considerable deficiency conspicuous in the total for the year 1829, which induced us to suppose that a mistake had been somewhere committed, but upon the most careful examination of the original record, we found the returns complete from all the various practitioners, and were unable to perceive any error in the computation. It is a fact of the highest interest, that although the males at birth for the whole period exceed the females by more than 7 per cent. such is the greater ratio of mortality among them during the first years of life, that at the fifth year the excess of males is only about 5 per cent. whilst by the tenth year it has been so reduced that the excess is only about 1 per cent. Referring to the table exhibiting the population at different ages for the evidences of our representations, we shall not stop to indulge in the speculations which this subject seems to invite.

In consequence of some curious investigations made lately by M.

Villerme, of Paris,* we have been induced to construct a table of the births in Philadelphia for the last ten years, so as to present the amount of each sex per month, (Table C.) This was a very arduous and troublesome task, as from the manner in which the record is kept, we were obliged to refer to the separate statements made by the various practitioners in the respective years embraced by our table.† Having obtained the amount of the births for each of the months in the period mentioned, and calculated their sums, it was next necessary, in order to institute a fair comparison, to equalize them, by making all of the value of thirty-one days. In effecting this, we followed the rule given by M. Villermé, which consists in ascertaining for each of the short months the average number of births per day, and multiplying this sum by thirty-one. By pursuing this process, the following results were obtained, which we arrange in such manner as to give the highest place to the months presenting the greatest number of births, and the corresponding months of conception, which last are seen on the right.

Month.	Whole No. of Births.	Males.	Females.	Correspond. mos. of Conception.
1. February	5996	3099	2897	May.
2. September	5965	3112	2853	December.
3. December	5937	3023	2914	March.
4. January	5712	3012	2700	April.
5. November	5652	2954	2698	February.
6. March	5598	2896	2702	June.
7. October	5567	2941	2626	January.
8. August	5437	2798	2639	November.
9. July	5221	2764	2457	October.
10. June	4855	2523	2332	September.
11. April	4805	2515	2290	July.
12. May	4797	2503	2294	August.

It would hence appear that the locality of Philadelphia is subjected to the influence of some causes, which, during a portion of the year, operate unfavourably upon the increase of its population by reproduction. These causes seem to prevail during the extreme heat of summer, and in the commencement of autumn, the months of August,

* De la distribution par mois des Conceptions et des naissances de l'homme. Annales d'Hygiène Publique et de Médecine Légale.

† The sums of births per annum exhibited in this table, will sometimes be found less than those reported annually by the Board of Health. This arises from the rejection of some returns made by the quarter or year, instead of the month.

July, and September, standing lowest in the scale designating the months of conception.

As we are unacquainted with any circumstances connected with the social customs or institutions of the place, sufficient to account for the variation so obvious at different seasons in the births and conceptions, we feel ourselves constrained to adopt the explanation proposed by M. Villermé, who attributes it to the influence, either direct or indirect, of the annual revolution of the earth around the sun, or in other words, to the order of the seasons. It will no doubt be gratifying to the investigator of this novel subject, to have the main conclusion which he has derived from his extensive researches in Europe, confirmed by calculations made in this part of the globe. From an inspection of our statement, it will be seen that its results are in singular accordance with the observation of M. Villermé, "c'est à dire, que les mois de Juillet, Août et Septembre, qui sont les plus chauds, offerent comparée aux autres mois de l'anné, une diminution notable dans la force génératrice." But although the results of our observations correspond thus strictly with his in regard to the *minimum* of births and conceptions, they are found to vary in respect to the *maximum*, as will be seen by comparing our statement with that one of his general conclusions, which asserts that "*toujours et partout*, à des variations près fort limitées, la fin du printemps, le commencement de l'ètè, offrent les plus grand nombre des conceptions," &c. As, however, the thermometrical observations made in this locality,* will exhibit a striking difference between the climate and seasons of this part of America, and those of the various parts of the European continent comprehended in M. Villermé's calculations, some difference in the results was to be naturally expected. Should similar investigations be made in other sections of our own country, which from its extent presents such diversity of climate, they will no doubt exhibit corresponding variations in the results, but still, we think, support M. Villermé's leading principle, relative to solar influence upon the propagation of the human species.

Before we conclude our remarks upon this subject, we would invite attention to a fact which perhaps will go further to account for the variations in the number of births existing between the different months, than any other circumstance, independent of temperature.

An estimate made so as to include those three years of the series least affected by the epidemic causes we have adverted to, would present a different order in the months, from one made to include a like number of years most subject to these influences. Let us take for exam-

* See Vol. I. of this Journal, art. Medical Statistics of Philadelphia, Table I.

ple the three last years of our series, viz. 1828, 1829, and 1830—during which the epidemic has been felt much more slightly than during the seven preceding years. Their order when arranged according to the plan previously adopted, would differ but little from that presented by the whole series, and would stand as follows, reckoning all the months to have thirty-one days:—

Month.	No. of Births.	Corresponding months of Conception.
1. September	2047	December.
2. February	1995	May.
3. December	1951	March.
4. January	1947	April.
5. March	1913	June.
6. November	1885	February.
7. October	1836	January.
8. August	1785	November.
9. July	1719	October.
10. April	1664	July.
11. May	1658	August.
12. June	1610	September.

When, however, we make a similar estimate for the three years, which, from their great mortality, we may suppose felt the epidemic influences in the highest degree, viz. 1823, 1824, and 1825, we find some variation, the months arranged according to the decreasing ratio of births and conceptions taking the following order:—

Month.	No. of Births.	Corresponding months of Conception.
1. September	1685	December.
2. December	1674	March.
3. October	1645	January.
4. February	1629	May.
5. January	1581	April.
6. August	1569	November.
7. November	1540	February.
8. July	1497	October.
9. March	1487	June.
10. April	1416	July.
11. June	1372	September.
12. May	1317	August.

In this last estimate we see but little change in the situation of the months presenting the extremes, or *maximum* and *minimum* of births and conceptions. We find, however, a sensible diminution in the proportion of conceptions for the months of June and October.

Now in the first of these months we know that the epidemic forms of disease seemed to revive for the season with great force, and continue until October. We therefore think it a demonstrable fact, that in addition to the principal influence which lessens fecundity in this locality, namely, that of high temperature, there has existed during the period embraced by our calculation, another retarding force connected with the late epidemic.

As the results of our observations are in accordance with those obtained by M. Villermé from extensive data procured in those parts of France subject to endemic influences, we do not think it necessary to pursue these calculations further.

We terminate this portion of our investigations with the following general conclusions:—

1. That the chief cause which operates in our locality in retarding the natural increase of the population, appears to be the extreme heat of summer and the insalubrity of the first months of autumn.

2. That another cause which has tended to check fecundity during the last ten years, may be traced to the epidemic influences to which the population of the environs of the town were subjected. This of course is not a regular, but merely an occasional cause.

3. That the prevalence of epidemics or extensive sickness among adults, tends not only to diminish population directly, by increasing mortality, but indirectly, by diminishing fecundity.

4. That upon examination of the births and deaths of particular years, the *maximum* of conceptions will almost invariably be found corresponding to the *minimum* of adult mortality, and vice versa, the *maximum* of deaths agreeing with the *minimum* of conceptions.

According to M. Villermé's investigations, the disparity existing between the births and conceptions of the different seasons is much more strongly marked in the country and small towns than in the large cities. We possess no data by which we can ascertain whether this observation is equally applicable to this country.

Deaths.

The proportion of deaths to the population for the last ten years is exhibited in table D. and proves greater than it has been at any period since regular records of mortality have been kept. The lowest rate was in the last year, (1830,) when it was one death in 42.94 inhabitants, or 2.32 per cent. of the population. The highest degree of mortality occurred in 1823, and was at the rate of one death in 30.5 inhabitants, or 3.26 per cent. of the population. The average of the whole period is one death in 38.85 inhabitants. These estimates are

made without reference to distinction of colour, and exclusive of still-born.

This ratio so far exceeds that of the fourteen preceding years, when it was one year as low as one death in 56.53 inhabitants, and on an average for the whole period, one in 47.86 of the population generally, and only one in about 51 of the whites, that we feel called upon to enter into some investigation of its causes.

Upon referring to the tables accompanying these and our former calculations, exhibiting the annual mortality, it will be seen that in the year 1818 a very sudden increase took place in the amount of deaths. An examination of the tables giving the particular diseases from which these occurred, shows that this increase may be traced for the most part to an unusual prevalence of fevers, inflammations, and bowel complaints, or in other words, to epidemic causes, which were felt with greatest violence from 1818 to 1826, and more especially in the years 1822, 1823, and 1824.* It is a curious fact, that although the same influences which promoted fevers seemed to operate in producing an increase of bowel complaints, the mortality from this last source should not have diminished in a proportion similar to that of fevers, whilst with regard to inflammations there has been a striking increase with the subsidence of fevers. It is possible that the new nomenclature of the physiological school of medicine may have occasioned some of these last to be enumerated with the phlegmasiæ, but the number we are sure must have been

* To make this more apparent, we subjoin the following abstract from the tables. The first years are added for the purpose of showing the ordinary mortality previously to the commencement of the epidemic.

Year.	Total mortality.	Fevers.	Inflammations.	Bowel compl'nts.	Consumption.	Dropsies.
1816	2225	193	229	153	434	156
1817	2107	211	205	229	349	149
1818	2609	492	195	283	396	171
1819	2979	277	265	363	459	231
1820	3189	526	275	454	446	209
1821	2161	402	289	380	438	194
1822	3334	498	284	461	488	243
1823	4372	744	339	562	536	241
1824	4284	647	402	297	576	221
1825	3539	362	338	362	519	270
1826	3845	421	447	415	587	242
1827	3659	365	481	384	523	219
1828	3971	373	483	429	581	253
1829	4001	260	631	394	638	287
1830	3948	228	505	361	636	281

very limited, as may be seen by referring to the particular kinds of inflammation.

In a former number of this journal we took some pains to show that the influence of the sickly air was expended upon that comparatively limited portion of the population living in the environs and outskirts of the town. With these, fever in some of its forms was almost universal, whilst in the more dense and well paved parts, the air seemed unusually healthy, and where remittents and intermittents were met with, they could almost invariably be traced to exposure to night air in the country or suburbs. Never was a stronger demonstration afforded of the resistance made by cities to the influence of country malaria than our late experience has furnished. Great as was the amount of sickness, it was confined almost entirely to the comparatively small proportion of population inhabiting the unpaved or ill-paved environs. Our observation on this and other occasions, has led us to ascribe this exemption for the most part to the pavements, which, by effecting a perfect draining, prevents exhalation, at the same time that it admits of the total removal of vegetable and animal matters, the sources of foul and unhealthy emanations. The chief motive for paving the streets and side walks, is usually convenience, but it has always appeared to us, that by far the most important object achieved by it was the preservation of health.

Whilst upon the subject of public hygiene, we cannot restrain ourselves from noticing another consideration connected with it, namely, ventilation, or a proper supply of pure unrespired air. By far the greatest proportion of the annual sickness and mortality of ordinary seasons is furnished by the narrow and confined alleys and courts existing in various parts of the town. The low terms upon which the small houses and rooms in such places can be obtained, causes them to be literally crowded with a class of population for the most part negligent of cleanliness, and it can occasion no surprize that there should be a great disparity between the proportions of sickness and mortality among these, compared with that which takes place in the portion living in larger dwellings, having a freer circulation of air. The difference just mentioned, though sufficiently obvious in adults, is most lamentably conspicuous among children Notwithstanding the great numbers of these which die annually of cholera, we feel ourselves warranted in asserting that deaths from this disease are rare in houses with large and well-aired apartments. To one who in the capacity of physician to a dispensary or other charity, has been engaged in the arduous duties of attending the poor in their uncomfortable abodes, evidences of our assertions must be abundantly familiar.

The numerous instances wherein the mercenary calculations of individuals has tempted them to put up nests of contracted tenements in courts or alleys admitting but little air, and yet subjected to the full influence of heat, has often induced us to wish that there could be some public regulation by which the evil might be checked. Mankind have inhabited cities long enough to know from severe experience, that there are certain limits to the denseness of population, which when passed, always lead to disease and mortality. As we think every thing tending to the preservation of public health must be a fit subject for legislation, we do not see why a law should not be procured by which the undue crowding of population might be prevented, and the number and size of dwellings adjusted to superficial limits. There are at present municipal regulations intended as a protection against conflagration, by designating the materials of which houses shall be constructed; and if such precautions be deemed so important when property is the consideration, of how much more consequence would be those for the preservation of health and life.

It is common to attribute the greater mortality known to take place under ordinary circumstances in large towns among the poorer classes, chiefly to meagre or unwholesome food and immoderate indulgence in strong liquors. But in this country, where for a part of the year we are subjected to a degree of heat little if at all below that of the tropics, the influence of both these causes in the production of disease, is, in our opinion, insignificant, when compared to that of breathing air that has been previously respired, and which, moreover, is commonly charged with animal and vegetable effluvia. That the same diet and habits of life in the country or small towns, would not be attended with a degree of sickness and mortality corresponding to that found in the crowded portions of large towns, is, we think, beyond a doubt.

In Paris, comparisons instituted between the parts chiefly occupied by such as live at ease, with those inhabited by the poorer orders, would seem to show that the proportion of mortality is regulated less by the density of population, than by the opposite circumstances of ease and poverty.* That this may be the case under the circumstances of climate and means of nourishment which exist there, we will not pre-

* The results of the extensive and extremely interesting researches of M. Villot relative to the changes in the population of Paris, show that the three arrondissements presenting the smallest portion of mortality, namely, an average of one in forty-two of the population per annum, are precisely those recognised as the richest, whilst the three presenting the greatest rate, namely, about one in twenty-five, are noted as the poorest.

tend to deny; but in this country, where absolute want of food, and that of the best kind, is unknown, the evils of poverty we are convinced come from different sources, and more especially from those we have mentioned.

Those desirous of examining into the immediate sources of the mortality of Philadelphia for the four years from 1827 to 1830 inclusive, are referred to table E. which contains the amount from each particular disease, or other cause. We have thought it unnecessary to include the preceding years, there being a similar calculation for them in the tables previously given in this Journal.

An examination of our records of mortality for the last twenty-five years, will show that during the whole time, the number of deaths from *malignant* or *yellow fever* is only about 125. This information may appear strange, even at home; but how much more so abroad, in Europe for instance, where the dread of this disease has alone perhaps deterred many from visiting the country, and raised obstacles to our commerce by the enforcement of vexatious quarantine regulations in many ports. The simple fact we have here stated relative to our exemption from yellow fever, should, we think, entitle our vessels to general pratique, or at least lessen very greatly the detention to which they are so frequently subjected, especially in the South of Europe.

To what this great exemption for so long a period is to be ascribed, and what share of the happy influence has been exerted by quarantine regulations, more general and better paving, with greater cleanliness, are questions it would be very interesting to solve.

The various periods of life at which the deaths occurred, are exhibited in table G. from which it appears that the deaths of such as were under the

1st year, constitute about 48 per ct. or nearly one-half of all those under the 20th year, and
22 per ct. of the mortality at all ages.

2d " " 66 per ct. of all under the 20th year, and about
31 per ct. of the mortality at all ages.

5th " " 81 per ct. of all under the 20th year, and about
35 per ct. of the mortality at all ages.

10th " " 89 per ct. of all under the 20th year, or about
42 per ct. of the mortality at all ages.

15th year, constitute about 93 per ct. of all under the 20th year, and about 44 per ct. of the mortality at all ages.
20th " " 47 " " "
All *over* the 30th year, constitute about 40 per ct. of the mortality at all ages.
40th " " 28 " " "
50th " " 18 " " "
60th " " 11.3 " " "
70th " " 6.2 " " "
80th " " 2.3 " " "
90th " " 0.7 " " "
100th " " 0.001, or about 1 in 1000.

For the purpose of ascertaining whether any influence was exerted by the late epidemic visitation upon the mean duration of human life as formerly determined, we have included a series of ten years in our table. The result of the estimate shows a diminution in the mean duration from that exhibited by our former calculations, which were founded upon data furnished by the fourteen previous years, namely, from 1807 to 1820 inclusive. The average for the last ten years is 28.53, whilst that formerly presented for the period mentioned, was 29.40. In the year 1823, when the greatest mortality occurred, the mean duration fell as low as 26.67. It is not pretended, as we have elsewhere stated, that calculations founded on such data as we possess, can give the mean duration of human life for Philadelphia with precision, one important obstacle to the attainment of which is, that the periods of mortality designated are not sufficiently numerous. It is however the nearest approach that present circumstances will admit us to make towards ascertaining this important point relative to the *laws of mortality.* For the purposes of regulating estimates of risk and adventure, it would we think for several reasons, afford a safe minimum.

The mean duration of life for that portion of inhabitants residing in the more central parts of the town, in good houses, and abundantly provided with all the necessaries of life, must be much above that of the general average for all conditions, including the blacks as well as the poorer class of whites. Now, as these last, though they furnish by far the largest proportion of mortality, and consequently present the greatest risks, seldom apply for life insurance or annuities, it is evident that ventures founded upon estimates of the chances of life in which they are included, must afford great profit, insurance being commonly effected upon that class in which the average value of life is much the greatest.

With regard to the mortality of particular diseases, as exhibited in table F. we have not much to add to what we have already mentioned either on this or the former occasion. It has been shown that fevers, bowel complaints, and inflammations have been much more prevalent within the period included in the present calculations than in that embraced by the preceding. This will perhaps be most strikingly demonstrated thus:—

The average mortality of *fevers*, from 1807 to 1817 inclusive, was in the proportion of 1 in 13, or 7.7 per cent. of the whole mortality. But since that time, and from the year 1818 to 1828 inclusive, the average has been as great as 1 in 7.4, or 13½ per cent. of the whole mortality, nearly double its usual rate.

The average proportion from *bowel complaints* for the same periods has altered but little, notwithstanding the great increase observed in their number since the commencement of the epidemic. For the first mentioned period it was one in 8.3 or 12 per cent. of the total mortality, and for the last, 1 in 8.6 or 11.5 per cent. of the mortality.

The proportional increase in the mortality from *inflammations*, in the last period though more apparent than that of bowel complaints, is much less marked than that of fevers. The average of the first eleven years is 1 in 11.8 or 8.4 per cent.; that of the following eleven years, 1 in 9.9, or 10 per cent. During the last five years, viz. from 1826 to 1830 inclusive, the average has increased so as to constitute 13 per cent. of the entire mortality, which it will be seen is very nearly the proportion of fevers when these were most prevalent.

Of *dropsies*, the average proportion for the first period is 1 in 16, or 6.2 per cent. of the whole mortality, which rate was slightly increased during the last or epidemic period, so as to constitute 1 in 15, or 6.6 per cent. of the entire mortality. During the last five years, which, as already shown, has been distinguished by the prevalence of inflammatory disorders, the proportional mortality from dropsies, has been about equal to what it was during the greatest prevalence of fevers, proving that the agency of both forms of disease in the production of hydropic affections is about equal.

Contrary to what we have found to be the case in regard to the proportional mortality from the last mentioned diseases, that from *consumption*, compared with the general mortality, has rather diminished during the existence of the epidemic influences. Thus we find the average for the eleven years from 1807 to 1818, inclusive, to be 1 in 6.3, or 15 per cent. whilst for the following eleven years, it was as in 6.8, or 14.6 per cent. During the last five years, that is to say, since the subsidence of fevers and increase of inflammatory disorders, the average mortality from consumption, compared to the general

mortality, has been 1 in 6.5, or 15.3 per cent. It must not be forgotten that in estimating these several ratios, the *still-born* were deducted from the yearly sums of mortality; had they been retained, as they often are in such calculations, the proportional mortality of particular diseases would of course appear much less.

Estimates formerly given exhibited the influence of the months and seasons upon the mortality both of adults and children. It was shown from a series of observations including twenty years, how the relative mortality of the months for adults stood, when arranged according to the order of their decreasing mortality. As we did not then show the respective proportions of the months when all made equal to thirty-one days, we now adopt this measure. The result for the twenty years specified is the following order and distribution:—*

1. August	6632	7. April	4370
2. July	5887	8. November	4361
3. September	5309	9. February	4283
4. June	4699	10. January	4112
5. October	4554	11. December	4072
6. March	4371	12. May	3892

Arranged according to the mortality of adults alone, and supposing them all to consist of thirty-one days, the months placed in the order of their decreasing mortality, would stand thus:—

1. August	2845	7. November	2432
2. September	2716	8. July	2429
3. April	2609	9. June	2409
4. October	2560	10. January	2390
5. February	2501	11. December	2252
6. March	2480	12. May	2224

The relative mortality of the several months for those under twenty years of age, would stand, according to a similar arrangement, thus:—

1. August	3787	7. March	1891
2. July	3458	8. December	1820
3. September	2591	9. February	1782
4. June	2290	10. April	1761
5. October	1994	11. January	1722
6. November	1929	12. May	1668

* See Table IV. of our former series of calculations. It may be proper to observe that the present is one of the few instances, in which the still-born have not been deducted in our estimates of mortality. As, however, our object is to show the relative, and not the actual mortality, their exclusion would not have altered the results.

The influence of the seasons in the production of the mortality of both adults and children in our locality, is rendered strikingly conspicuous by this mode of calculation. In the estimates for children, the disparity existing between the months exhibiting the maximum and minimum, or greatest and least proportions of deaths, compared with the difference between the months showing the like proportions for adults, demonstrates most forcibly how much more under the influence of the seasons those in the early periods of life are, than such as have arrived at maturity. With adults the difference in these extremes is only about 21 per cent. whilst that of children is no less than 55 per cent. For the purpose of investigating this interesting subject in still greater detail, we have constructed table H. which exhibits the infantile mortality per month at the respective ages or periods of life. A period of five years was deemed quite ample for this purpose, and instead of returning to the time embraced in our first, we have taken them from the last years of our estimates. The periods designated in our table are four—the first giving the mortality under the first year; the second, that occurring between the first and second years; the third, that between the second and fifth years; and the fourth and last, which embraces no less than fifteen years of life, namely, from the fifth year to the twentieth. The proportion of still-born were deducted from the mortality under the first year.

The months of the five years *equalized* and exhibited in the order of their decreasing mortality, with their respective proportions, stand thus:—

	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20.	Totals.
1. July	836	249	117	120	1322
2. August	546	317	120	165	1148
3. Sept.	377	221	140	185	923
4. June	510	148	84	105	847
5. February	382	109	123	131	745
6. October	324	127	117	153	721
7. March	322	119	122	138	701
8. April	342	107	125	122	696
9. Dec.	269	90	114	135	608
10. Nov.	267	90	114	132	603
11. January	281	81	102	109	573
12. May	250	98	107	107	562
	4706	1756	1385	1602	9449

It hence appears that by far the greatest mortality occurring in

childhood takes place in July, June, and August, months distinguished from all others by their high temperature, and that heat is the great enemy of early life in our city.* It is interesting to observe that the destructive influence of this agent has lost much of its power after the first year of life, and that after the second year it is scarcely perceptible, there being but little variation in the columns representing the monthly mortality after this period.

If we take the mortality for the months of June, July, and August, we find that the proportion occurring under the second year of infancy is about four times greater than that which occurred during the same months for the whole eighteen succeeding years of life; whereas, for the three months of November, December, and January, the amount of mortality under the two first years of life, is but little above that of the eighteen succeeding years.

It will be observed that the month of September stands among the highest months in the scale of infantile mortality, differing however from those with which it is associated, by having a larger proportion of deaths distributed under the later periods designated.

For the diseases proving most frequently fatal to childhood, with the ages at which they occur, we refer to Table VIII. of our calculations formerly published.

At the time of making our first series of statistical calculations we were so deficient in the data necessary for ascertaining the correct proportion of mortality for the black population separately, that we were compelled as we then stated, to appeal to conjecture for some of them, or abandon the interesting subject entirely. We are now happy to have it in our power to place our estimates upon a better foundation, possessing not only a longer period for observation, but being furnished through the census taken last year with the exact proportion of this class of the population. In Table E. we have exhibited the respective proportions of both white and black mortality and population, with the annual ratio of deaths in each, during the ten years from 1821 to 1830 inclusive. This estimate differs in some respects from the one formerly given, one of which is, that the proportion of still-born has been deducted, a circumstance calculated, as we have before observed, to lessen the rate of mortality compared to population, but to increase the proportion from particular diseases compared with the whole.

* For the average temperature of these and other months in Philadelphia, we refer to Table I. of our former calculations.

The result of our calculations shows a disparity in the proportions of white and black mortality, compared with the population, which though not quite equal to what we had computed it for the five years succeeding 1820, is still most appalling for the African descendants. The greatest mortality among these in any single year was in 1820, when it amounted to 1 death in 16.9 inhabitants. The smallest in 1830, when the ratio was 1 in 27.2. The average for the whole ten years is 1 in 21.7, whilst that for the whites alone during this unusually sickly period is 1 in 42.3. The lowest rate of mortality for the whites occurred in 1821, and was 1 in 49.1 inhabitants, the highest in 1823, when it amounted to 1 in 33.8. We regret exceedingly that the black mortality was not recorded separately for some time previous to 1820, as we should then have been enabled to ascertain its exact proportion in the years when a fever prevailed in some parts of the town, which confined its attacks to the blacks alone, sparing the whites that even lived among them.*

The fact last mentioned is of itself sufficient proof of the existence of some peculiarity in the African constitution, which distinguishes it from that of the white, and when connected with the opposite circumstances of their much greater exemption from some other varieties of fever, to which whites are extremely liable on the application of the causes, as for example, the yellow and even intermittent forms, the evidence is rendered still more positive.

The late Joseph M. Paul, of this city, whose ardent philanthropy was actively directed towards the African race, and who consequently took a particular interest in every thing calculated to shed light upon or ameliorate their condition, undertook the year previous to his death, to trace out the particular diseases which occasioned the mortality of the coloured population. But this tedious task, which consisted in consulting each individual certificate deposited at the Health Office, he was forced by declining health to abandon, after completing only one year, namely, 1827, the tabular view of which, showing the mortality for each week, he had the kindness to transmit to us. The investigation of the sources of the greater mortality of

* Accounts of this singular epidemic may be found in Dr. Jackson's paper in the Philadelphia Journal of the Medical and Physical Sciences, Vol. I. No. II. p. 321, and in Vol. III. No. VI. p. 193, of the same periodical. The disease, which was of a bilious and remittent character with typhoid symptoms, made its appearance in May, and extended with the increase of warm weather, terminating as an epidemic in September. The deaths from it in the Alms-house, whither a great many were carried, were about one in six.

the blacks affords a highly interesting subject, and had time allowed we should have continued the labours commenced by our deceased friend. But this has not been permitted us, and we are consequently obliged to confine ourselves on the present occasion to the results furnished by a very limited period, hoping yet to find leisure to extend the observations so as to include other years, or to see the subject taken up and completed by some other person.

The diseases comprehended in the statement furnished us, with the respective mortality of each, are as follows. The names of some with few or no deaths are retained, to show that the proportion set down to them in the general bills of mortality, must belong for the most part or altogether to the whites. We have adopted the alphabetical order:—

Diseases.	No. of Deaths.
Apoplexy	2
Catarrh	7
Cholera	16
Consumption	92
Convulsions	37
Debility	28
Dropsies	13
Drowned	3
Drunkenness	8
Dysentery and Diarrhœa	29
Typhus Fever	34
Other Fevers	89
Hives	4
Hooping Cough	8
Inflammation of the Brain	0
Inflammation of the Lungs	9
Carried over	379

Diseases.	No. of Deaths.
Brought over	379
Insanity	1
Mania a potu	3
Measles	0
Old age	19
Palsy	1
Small Pox	56
Still-born	38
Sudden	22
Unknown	46
Various	143
Total	746
Still-born	38
Exclusive of Still-born	708

From this view it appears, that of the total mortality of the blacks, in the year 1827, namely, 708, exclusive of still-born, the proportion from consumption was 1 in 7.6, or 13 per cent.; from fevers 1 in 5.7, or 17 per cent. which it will be seen, is a much larger proportion than the deaths from fevers bore to the general mortality for the same year, viz. 1 in 10; and from bowel complaints 1 in 15, or 6.3 per cent. The number that died in the alms-house was 155.

The actual proportion of deaths for each month is as follows:

1. January	52	7. July	62
2. February	44	8. August	58
3. March	38	9. September	63
4. April	44	10. October	91
5. May	40	11. November	103
6. June	55	12. December	96

When all made equal to thirty-one days, and arranged according to their decreasing mortality, with their respective proportions, the months assume the following order:—

1. November	106	7. June	57
2. December	96	8. January	52
3. October	91	9. February	48
4. September	65	10. April	44
5. July	62	11. May	40
6. August	58	12. March	38

Of the number 746 actually reported, 401 were males, and 345 females, the deaths of females being about 1 in 14, and of females 1 in 22 of their respective proportions of the population. That the mortality of males should thus be found to exceed that of the females 13 per cent. is a result not to have been expected, when it is considered that the female portion of the black population exceeds the male 32 per cent.

The ages or periods of life at which the mortality occurred are as follows, viz.:—

Under 2 years, (still-born excluded)	190	
Between 2 and 10	56	
All under 10		246
Between 10 and 20		43
All under 20		289
Between 20 and 30	110	
" 30 and 40	113	
" 40 and 50	91	
" 50 and 60	41	
" 60 and 70	25	
" 70 and 80	19	
" 80 and 90	11	
" 90 and 100	6	
100 and over	3	
All over 20		419

The proportion of deaths at particular periods of life compared with the general mortality, may be reckoned thus:—

All under	2	yr's	constitute 1 in 3.7 or 28	per ct.	of the whole mortality.
"	10	"	1 in 2.8 or 34	"	"
"	20	"	1 in 2.4 or 40	"	"
"	30	"	56	"	"

In concluding our present statistical labours, we would remark that it has been our object to supply facts of a general character, rather than to pursue details through all their bearings. To have dwelt more minutely upon the many interesting topics developed in the course of our researches, would, we feared, have overcharged the subject, and deterred many from pursuing it, whose partiality for statistical investigations are not very strong. To those fond of such inquiries we have presented abundant materials and left ample room for their employment, as the results we have drawn from the data are only the most prominent that presented themselves. We have seldom indulged in comparisons with other places, and never with our neighbouring cities, our object having been to present facts as they exist, whether these be favourable or unfavourable to the character of our locality for salubrity. Persons who undertake estimates for other places, are often led to the commission of errors, unintentionally of course, from not being acquainted with some local circumstances calculated to affect the results very materially. Such causes have frequently led to mistakes with regard to the proportional mortality of Philadelphia. We have lately seen with some regret a repetition of them in a respectable cotemporary journal, in which the population of Philadelphia is represented about 6400 less than actually exists within the limits of the bills of mortality.* It is needless to add that such an error in the commencement, completely invalidates the whole series of comparative estimates. In such matters, partiality for a favourite city should never be allowed to interfere, and lead to the concealment or palliation of evils where they exist. On the contrary, these should as far as practicable be fully exposed to view, so as to lead when possible, to their removal or correction. Without such an application, medical statistics would lose half their value, and instead of being, as it actually is, a highly practical, sink to the level of a mere speculative branch of knowledge.

* New York Medical and Physical Journal, Vol. I. p. 436.

TABLE A.

Abstract from the Census of the City and County of Philadelphia, taken in 1830, *by order of the General Government, showing the number and description of Inhabitants within the built parts of the town.*

WARDS AND DISTRICTS.	WHITES.																									
	MALES.													FEMALES.												
	Under 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100, &c.	Under 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100, &c.	TOTAL.
City Wards	4608	3557	3323	4547	7589	4423	2580	1374	685	243	84	16	2	4500	3847	3956	4944	8763	5154	2963	1833	1064	438	128	24	5	70662
Northern Liberty Wards	2253	1638	1423	1585	2886	1627	974	466	268	69	23	1	0	2185	1666	1535	1674	3203	1934	1096	711	467	183	50	1	1	27921
Southwark, and other Incorporated districts.	4219	3965	2885	2889	4646	3508	1621	678	298	100	18	6	1	3853	3567	2794	3172	4943	3343	1715	888	475	163	48	9	1	49835
N. Liberties, unincorporated	183	155	185	134	241	145	97	66	29	5	1	0	0	197	140	152	117	220	130	79	56	34	10	4	0	0	2380
Penn Township	197	151	132	152	243	158	89	60	23	9	3	2	0	184	148	141	136	255	138	70	54	35	12	1	1	0	2401
	11460	9466	7948	9303	15605	9861	5361	2644	1303	426	129	25	3	10919	9368	8578	10040	17384	10690	5923	3542	2075	806	231	35	7	153169

TABLE A.—*CONTINUED.*

WARDS AND DISTRICTS.	BLACKS.													TOTAL WHITES AND BLACKS.
	MALES.						FEMALES.						TOTAL.	
	Under 10	10 to 24	24 to 36	36 to 55	55 to 100	100, &c.	Under 10	10 to 24	24 to 36	36 to 55	55 to 100	100, &c.		
City Wards	975	1076	1092	695	179	8	1041	1872	1606	894	351	7	9796	80458
Northern Liberty Wards	119	111	117	71	31	0	135	170	137	79	32	0	1002	28923
Southwark, and other Incorporated districts	436	400	445	318	137	6	446	546	538	288	100	5	3665	53470
N. Liberties, unincorporated	12	7	10	6	3	0	9	10	6	10	0	0	73	2453
Penn Township	7	20	14	7	5	0	8	16	13	9	7	0	106	2507
	1549	1614	1678	1097	355	14	1639	2614	2300	1280	490	12	14642	167811

TABLE B.

Births per annum in Philadelphia, from 1821 *to* 1830 *inclusive, with the respective proportions of the Sexes.*

Year.	Males.	Females.	Totals.	Excess of males per annum.	Excess of males per cent.	Proportion of Births to Population.
1821	2630	2417	5047	213	8.	Average proportion of births to the population 4.42 per cent. or as 1 to 22.9.
1822	3021	2701	5722	320	10.5	
1823	2977	2836	5813	141	4.7	
1824	3062	2771	5833	291	9.5	
1825	3444	3182	6626	262	7.6	
1826	3526	3219	6745	307	8.7	
1827	3581	3452	7033	129	3.6	
1828	3694	3506	7200	188	5.	
1829	3638	3357	6995	281	7.	
1830	3996	3632	7628	364	9.1	
	33569	31073	64642	2496		

1811	507	453	470	425	458	BLACKS.																		

TABLE C.

Exhibiting the Births in Philadelphia, for each month of a series of ten years; namely, from the year 1821 *to* 1830 *inclusive, designating the numbers of each sex.*

YEARS.	Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1821	245	227	210	186	242	206	180	207	185	167	195	177	209	186	222	218	247	217	225	184	239	212	235	225
1822	267	236	285	244	257	232	201	178	230	217	241	182	270	211	242	232	239	242	267	236	297	242	265	222
1823	299	266	250	248	238	221	199	201	186	215	201	209	267	246	264	254	279	233	266	260	269	221	253	262
1824	279	228	274	242	234	248	224	211	227	193	235	213	259	206	243	205	290	270	296	234	238	238	259	263
1825	268	241	290	269	265	281	286	250	276	220	235	235	267	252	303	300	294	265	314	275	272	253	323	314
1826	325	297	286	252	349	281	233	196	228	241	181	241	297	273	312	397	285	288	276	250	280	260	329	349
1827	307	280	266	267	325	304	246	227	300	254	259	236	287	272	274	286	310	331	331	317	315	309	346	341
1828	322	307	320	299	352	325	278	261	286	277	282	264	295	288	338	301	321	295	336	271	328	301	347	318
1829	330	293	305	315	324	302	269	246	281	236	249	234	289	249	281	253	262	282	317	281	274	269	328	292
1830	370	325	323	303	310	302	318	239	304	274	264	266	324	274	319	293	384	337	313	318	347	306	338	328

TABLE D.

An estimate of the proportion of Deaths in the City and Suburbs of Philadelphia to the Population, from the year 1821 *to* 1830 *inclusive, showing the rate for each year, together with the average of the series.* Note. *Still-born excluded.*

Year.	Annual Mortality.	Population for each year.	Proportion to Population.	
			one in	per cent.
1821	2961	124934	42.19	2.37
1822	3334	129253	38.76	2.57
1823	4372	133721	30.58	3.26
1824	4284	138343	32.29	3.09
1825	3539	143126	40.44	2.47
1826	3845	148073	38.56	2.59
1827	3659	153300	41.89	2.38
1828	3971	158488	39.90	2.50
1829	4001	163960	40.99	2.44
1830	3948	169536	42.94	2.32
			10) 388.54	25.99
		Average mortality per annum	38.85	2.59

TABLE E.

An estimate showing the respective Mortality of the White and Coloured portions of the Population of Philadelphia, from the year 1821 *to* 1830, *inclusive, exhibiting the proportions in each year, and the average for the whole period. Still-born excluded.*

Year.	Annual Mortality.		Population for each year.		Proportion of Deaths to Population, as 1 in	
	Whites.	Blacks.	Whites.	Blacks.	Whites.	Blacks.
1821	2320	642	114065	10869	49.1	16.9
1822	2813	521	118008	11245	41.9	21.5
1823	3612	760	122088	11633	33.8	17.5
1824	3598	686	126308	12035	35.1	17.5
1825	3078	461	130675	12451	42.4	27.0
1826	3353	492	135191	12882	40.3	26.1
1827	2954	705	139963	13337	47.4	18.9
1828	3314	657	144700	13788	43.6	20.8
1829	3400	602	149696	14264	44.0	23.7
1830	3405	543	154737	14799	45.4	27·2
					423.0	217.1
				Average of the ten years	42.3	21.7

TABLE F.

Exhibiting the Principal Causes of the Mortality in Philadelphia, for the four years from 1827 *to* 1830 *inclusive.*

YEARS.	Whole mortality per annum exclusive of still-born.	Still-born.	Consumption.	Bowel Complaints.			Fevers.									Inflammations.												Total of Inflammations.	Convulsions.
																Inflams. of Organs of Respiration and Pleura.					Inflammations of the Abdominal Cavity.								
				Cholera.	Diarrhœa and Dysentery.	Totals.	Bilious and Remittent.	Inflammatory.	Typhus and Nervous.	Intermittents.	Malignant.	Undesignated.	Totals of the foregoing fevers.	Puerperal.	Hectic.	Scarlet.	Inflam. of Lungs.	Pleurisy.	Bronchitis.	Catarrh.	Totals.	Inflam. of Bowels and Stomach.	Peritoneum.	Liver.	Spleen.	Kidneys.	Bladder.	Uterus.	Totals.		
1827	3659	286	523	239	145	384	133	1	104	14	0	113	365	10	4	1	158	12	23	84	277	99	7	41	1	0	4	0	152	486	268
1828	3971	321	581	290	139	429	173	2	59	21	0	118	373	7	2	0	143	5	27	49	224	125	19	39	0	4	1	1	189	483	315
1829	4001	293	638	257	137	394	106	2	66	12	1	73	260	16	5	9	209	16	37	60	322	127	21	42	0	0	2	6	198	631	269
1830	3948	302	636	236	125	361	81	4	63	9	0	71	228	15	5	40	149	9	46	30	234	132	18	25	1	0	5	1	182	505	306

TABLE F.—*CONTINUED.*

YEARS.	Dropsies.			Debility and Decay.	Old age.	Small Pox.	Croup.	Hooping Cough.	Apoplexy.	Sudden.	Measles.	Atrophy, Tabes, and Marasmus.	Gangrene and Mortification.	Sore Throat.	Burns and Scalds.	Hæmorrhages of all kinds.	Cancer and Scirrhus	Asthma.	Colic.	Epilepsy.	Rheumatism.	Syphilis.	Tetanus.	Suicide.	Parturition and Childbed.	Abscess.	Aneurism.	Angina Pectoris.	Aphthæ.	Casualties.	Drowned.
	Dropsy of Head.	Chest.	Undesignated.	Total.																										
1827	107	29	83	219	228	76	100	64	51	47	67	89	28	9	23	29	24	15	12	10	4	3	10	4	7	8	21	5	0	6	22	46
1828	110	46	97	253	302	84	107	71	57	46	55	58	38	23	16	21	18	13	6	17	8	7	4	7	9	8	22	7	5	5	19	53
1829	147	49	91	287	286	65	81	67	37	51	61	53	31	31	21	30	18	16	10	7	6	7	9	8	4	2	25	3	4	6	29	38
1830	152	46	84	282	320	65	86	71	35	53	105	7	31	20	17	17	32	27	4	18	9	3	6	7	6	7	14	1	2	2	20	41

TABLE F. CONTINUED.

YEARS.	Drunkenness.	Mania a Potu.	Drunkenness and Mania a Potu.	Excessive heat and drinking cold water.	Disease of the Heart.	Disease of the Spine.	Eruptions.	Erysipelas.	Fracture.	Disease of Hip-Joint.	Dyspepsia.	Found Dead.	Fungus Hæmatodes.	Gout.	Hernia.	Insanity.	Jaundice.	Palsy.	Laudanum to excess.	Phlegmasia Dolens.	Scrofula.	Stone and Gravel.	Spina Bifida.	Tumours.	Teething.	Ulcers.	Violence.	Wounds.	Unknown.	Varioloid.	Worms.
1827	53	69	122	4	12	4	10	6	5	1	7	23	1	4	5	6	8	31	3	1	22	3	3	10	4	11	1	2	111	0	4
1828	30	82	112	10	20	1	6	4	8	1	3	29	4	6	4	17	9	41	9	1	14	2	3	11	7	19	3	4	71	7	4
1829	34	94	128	0	29	19	2	9	4	3	4	29	3	4	6	13	9	54	6	0	19	2	0	3	11	12	1	3	89	3	4
1830	25	95	120	29	26	0	2	27	5	0	1	26	3	4	8	11	8	36	6	2	18	2	8	5	14	16	3	3	76	1	4

TABLE G.

The ages or periods of life at which the Deaths in Philadelphia, have occurred in each year of a series of 10 *years; viz. from* 1821 *to* 1830 *inclusive, together with the average mean duration of life for each year, and for the whole period.*

Years.	Under 1 year	Between 1 and 2	Between 2 and 5	Between 5 and 10	Between 10 and 15	Between 15 and 20	Between 20 and 30	Between 30 and 40	Between 40 and 50	Between 50 and 60	Between 60 and 70	Between 70 and 80	Between 80 and 90	Between 90 and 100	Between 100 and 110	Between 110 and 120	Whole No. of deaths per an. exclusive of still-born.	Mean duration of life for each year and average.
1821	633	215	193	102	50	88	405	396	324	221	154	97	61	21	1	0	2961	30.14
1822	696	243	193	121	78	90	424	441	348	264	217	130	67	18	4	0	3334	31.12
1823	854	401	399	184	81	151	537	536	462	312	214	137	76	24	3	1	4372	26.67
1824	936	384	364	221	93	162	409	486	435	309	218	177	67	20	3	0	4284	28.04
1825	836	250	232	128	58	82	432	479	373	263	171	122	85	24	4	0	3539	29.12
1826	844	380	285	134	65	123	429	452	380	271	209	135	98	32	7	1	3845	29.22
1827	850	293	215	131	74	128	444	515	364	264	157	131	67	22	4	0	3659	28.85
1828	933	395	329	148	70	113	498	459	372	206	191	150	90	12	2	3	3971	27.11
1829	965	364	303	158	67	108	477	497	342	266	207	163	65	17	2	0	4001	27.62
1830	1003	325	260	139	75	99	508	518	353	267	195	110	70	24	2	0	3948	27.45
	8550	3250	2673	1466	711	1144	4563	4579	3753	2643	1933	1352	746	214	32	5	37614	285.34
																	Average mean duration of life	28.53

TABLE H.

Showing the Deaths per month that occurred in the early periods of Life, during a series of 5 years, namely from the year 1826 *to* 1830 *inclusive. Still-born excluded.*

YEARS.	January.				February.				March.				April.				May.				June.			
	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20
1826	49	14	14	22	72	26	22	31	73	31	33	36	99	36	36	28	39	25	31	26	66	34	18	20
1827	51	19	18	21	74	23	22	18	74	18	16	12	54	18	14	25	32	16	15	14	106	27	17	19
1828	60	14	22	23	61	11	23	23	66	16	18	25	37	18	20	19	55	17	18	19	114	40	11	18
1829	59	17	24	19	72	21	23	23	55	28	38	33	75	15	36	25	63	29	25	23	77	24	15	23
1830	62	17	24	24	67	18	21	24	54	26	17	32	66	17	15	21	61	11	18	25	131	18	20	22
	281	81	102	109	346	99	111	119	322	119	122	138	331	104	121	118	250	98	107	107	494	143	81	102
Totals per mo.	573				675				701				674				562				820			

TABLE H. CONTINUED.

YEARS.	July.				August.				September.				October.				November.				December.			
	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20	Under 1 year.	Between 1 and 2	Between 2 and 5	Between 5 and 20
1826	157	63	32	21	105	55	16	25	51	35	21	50	43	21	28	32	47	19	15	25	41	10	19	22
1827	150	36	22	30	101	47	15	43	58	38	22	29	61	14	18	24	44	15	24	33	54	14	25	30
1828	195	65	22	26	100	71	44	36	73	40	30	47	64	34	31	41	64	20	34	23	67	20	22	29
1829	135	34	14	18	123	79	29	27	97	60	32	30	84	25	25	36	52	15	20	25	55	23	23	30
1830	199	51	27	25	117	65	16	34	86	41	31	23	72	33	15	20	52	18	17	22	52	23	25	24
	836	249	117	120	546	317	120	165	365	214	136	179	324	127	117	153	259	87	110	128	269	90	114	135
Totals per mo.	1322				1148				894				721				584				608			

ART. II. *Case of Immobility of the Jaw and Taliacotion Operation.* By VALENTINE MOTT, M. D. &c. &c. [With a Plate.]

ON the 7th of April, 1831, I was consulted in the case of Miss Mary Park, aged seventeen, of Southbridge, Massachusetts.

Her attending physician, Dr. SAMUEL HARTWELL, gave the following relation of the case. "In the autumn of 1822, she had an attack of typhus fever: the symptoms were mild in the commencement of the disease, and nothing unusual occurred until the middle of the third week, when tumefaction and redness were discovered on the left cheek, accompanied with slight delirium and general aggravation of fever.

"At the end of the third week, a dark vesicle, about the size of a pea, appeared at the angle of the mouth, announcing the existence of sphacelus, and in a few days extended to about two inches in diameter upon the side of the face. A crisis of fever now supervened, which was followed by sloughing of the whole gangrenous portion, leaving the teeth and gums exposed. Upon its cicatrization the jaws remained immoveably fixed, being apparently tied together by a ligamentous band within and about the cicatrix. Her food was introduced into the mouth through a space formed by the removal of a tooth on the right side. The first set of teeth and the alveolar process of the diseased side, were detached by caries. Most of the second teeth were developed in a few years afterward.

"No mercury was used in the treatment of the fever. Her general health is now very good."

Her countenance was much disfigured, and presented the appearance represented in Plate I. fig. 1.

As the only means of permanently overcoming the closure of the jaw, was the removal of the cicatrix, I determined upon excising and replacing it by sound integument from the face and neck.

Accordingly on the 8th of April, assisted by Dr. VACHE, and in the presence of Drs. HARTWELL, BARROW, WILKES, HOSACK, and several others, I performed the operation.

It was commenced by carrying an incision from a little within the upper angle of the mouth, around the outer margin of the cicatrix, to a little within the lower angle of the under lip, and by the immediate removal of the newly-formed parts included within it. The adhesions between the jaws were next divided, which enabled me in consequence of the relaxation thus produced, to insinuate between the

teeth of the opposite side, the point of the lever used in my former cases, with which I finally succeeded in opening the mouth.

This point accomplished, the lips were brought together at the angle of the mouth by a suture, and I proceeded to detach a portion of integument sufficiently large and of corresponding shape to replace the part removed. See dotted lines, Plate I. fig. 1. It was turned into the space it was intended to fill, leaving a tongue three-quarters of an inch in breadth, connected with the adjacent part and sufficient for all the purposes of circulation. The cut edges were adjusted with extreme accuracy, by means of interrupted sutures and adhesive straps: the lower wound was contracted as much as possible by adhesive plasters, and the whole covered with lint, compress, and bandage.

Previous to the operation she took sol. sulp. morphine, double strength of Majendie's formula, gtt. xiv. The operation occupied about an hour, and was sustained with a firmness peculiar to the female sex.

Evening.—Had been sick at her stomach, and vomited some coagulated blood, which had no doubt been swallowed during the operation.

April 9th. Found her sitting up at the side of the bed. She felt, she said, very comfortable, and had passed a good night. Hardly any perceptible swelling of the face. As far as the parts can be seen all looks favourable. Ordered her a dose of sulph. magnesiæ. She can depress the lower jaw, by the effort of the will, to the extent of about half the width of the finger. I advised her to continue the motion of the jaw, from time to time, as much as the soreness at the angle of the mouth would permit.

10*th* and 11*th*. Continues to do well.

12*th*. Some little tumefaction under the eye, but she makes no complaint. Directed an emollient poultice to the hard dressings upon the wounds on the neck.

13*th*. Several poultices have been applied to the neck, which have softened the lint; upon carefully removing it and the plasters, the wound was again dressed in the same manner.

14*th*. Complains of a little head-ache from not sleeping well last night. Felt great comfort from the removal of the stiff dressings yesterday. Bowels are in a good state. Cannot say to what the head-ache is to be attributed; she thinks it owing to the loss of sleep last night. The swelling of the cheek has subsided. Changed the lint again to day.

15*th.* Found her in bed this morning, with pains in her limbs generally, and with some swelling of the right knee, and tenderness to the touch; passed a bad night; her pulse is much more frequent than natural. Is not aware that she ever had rheumatism before. Directed general and local treatment for her disease. She makes no complaint of her face, which in all respects is very promising. I removed three of the stitches from around the angle of the mouth, and reäpplied lint and plasters.

16*th.* Still in bed. Has less pain and swelling in the knee, but more in the foot and ankle; generally she feels better. Removed another stitch from the lower part of the patch. The wound of the neck looks well; dressed it with ungt. resinæ and plasters.

17*th.* To-day she is generally better, but feels most pain and tenderness in the knee and ankle of the other leg. Says her face feels very comfortable. I removed three stitches from the upper part of the patch, and for the first time all the plasters, and washed the whole surface. Adhesion seems to have taken place at every point of the flap. Dressed the face as yesterday.

18*th.* Every part of the flap appears to have united. Dressed the wounds with dry lint. Advised her to move the lower jaw a little downward, every day several times. The rheumatic affection is seated in the right wrist and fingers. Ordered the use of tinct. colchici.

19*th.* Passed a better night; but both arms are now nearly useless. Consented to day to be bled. Repeated the infus. sennæ as a cathartic; dressed the face, which looks very well.

20*th.* Feels generally better. Both arms still much affected. Drew the edges of the wound in the neck together with adhesive straps. Directed the tinct. colchici to be increased.

21*st.* In all respects better; a slight rheumatism yet continues in the left hand and arm. The colchicum has produced some cathartic action on the bowels. I dressed the face and wound as yesterday; directed her to open the jaw more frequently; and to continue the colchicum.

22*d.* Found her sitting up, and says she is more comfortable. The left hand and wrist still a little tumefied and painful. Face and wound continues to improve; dressed them as yesterday. Has more motion in the lower jaw.

23*d.* Is free from all pain to day, and feels quite well again. Ordered the colchicum to be discontinued. Dressed the wound as before.

25*th.* Continues free from rheumatism. The wound improves, and was dressed as yesterday. The jaw moves more freely.

May 12*th.* Patch in the cheek entirely healed, (see Plate I. fig. 2,) The wound in the neck is nearly closed. She can open the jaws sufficiently wide to admit solid food.

14*th.* She leaves town to-day in good spirits, and delighted with the result of the operation.

Although I have before often operated for immobility of the jaw, and with the happiest results, and have once removed a deformity occasioned by a hole in the cheek, by the Taliacotion method, in the New York Hospital, with perfect success, I have never before seen it necessary to combine both operations in one individual; and the gratifying termination of this long and arduous case, is a convincing proof of the excellence of the means employed, and of the power of art in repairing the ravages of disease, and in relieving its distressing consequences.

25 *Park Place, New York.*

N. B. A letter was received from Miss P. by the lady with whom she resided here, in which she stated her health to be excellent, the jaw to have acquired increased motion, and her friends much pleased with her improved appearance.—*July.*

ART. III. *Case of Immobility of the Jaw, successfully treated by Professor Mott's Complicated Lever, and a Modification of his Operation.* By JESSE W. MIGHELS, M. D. of Maine.

IN June last, J. T. of Hebron, Oxford County, aged twenty, called on me for advice. On examination I found that his under jaw was almost immoveably fixed to the upper, by a firm, ligamentous adhesion, extending from the cuspidatus tooth on the left side, backwards to the coronoid process. There was no lateral motion, and but a slight motion downwards. His face was badly disfigured, the left cheek being much fallen in, and the mouth drawn towards one side. Being able to separate his front teeth a little, he had conveyed his drinks between them, and by using them in masticating small portions of solid food, had worn away the upper incisors so as to leave an opening of nearly a quarter of an inch.

He had been in this situation ten years; said it was occasioned by neglected mercurial ulceration of the cheek and gums. He also informed me that it had been cut five times by eminent surgeons—twice by the late justly celebrated Professor SMITH, who, by the use of a

wooden wedge succeeded in separating his front teeth about half an inch, but that it irresistibly contracted as the wound closed. On the whole, the case too nearly resembles the one related by Professor Mott, in No. IX. p. 102 of this Journal, to need any further description. I proposed the same operation as there described, but the patient objected to having his cheek cut through. I therefore varied the operation so as to save the cheek entire, and am induced to believe that this is an improvement worthy of notice; for, independent of its saving at least *some* pain, it leaves the face free from scars, and there is no danger of the breaking of stitches and slipping of adhesive straps during the cure.

The patient being seated in a chair in a strong light, his lips separated and firmly held by assistants, I passed a very sharp two-edged knife, flatwise, in the direction of the teeth, back to the angle of the jaw, and carefully dissected the morbid adhesion from the gums; I then turned the edge so as to cut through the hardened mass crosswise, and as far back as I could. This so far loosened the jaw as to admit the *vice* betwixt the first molar teeth, and I then expected that a trifling force would be sufficient to finish the operation, but I have no doubt that the force applied was equal to one hundred pounds, and when it yielded it was attended with an audible crash resembling the laceration of ligaments. By keeping the jaws asunder by a wooden wedge, and the cheek from the gums by a soft sponge for a few weeks, the patient completely recovered the use of this jaw and the natural shape of his face.

Minot, Maine, June, 1831.

Art. IV. *On the Adaptive Powers of the Eye.* By H. Morton, M. D. of New York.

THE functions of the organ of vision have engaged the attention of anatomists and physiologists to a greater extent than any other organ in the animal economy. Its general anatomy is sufficiently well understood, but its physiology, we are inclined to believe, has not kept pace with the general advancement of medical science. Its functions as a dioptical instrument, or an organ of vision, offers a considerable field for observation and experiment, and a more accurate knowledge of these functions would perhaps enable us to explain more satisfactorily a great variety of its phenomena that are now obscure. Such knowledge might also enlighten us on its pathology, both

surgical and clinical, and as it is the organ through the medium of which the mind acquires by far the greatest proportion of its ideas, it might not be without its influence in a metaphysical point of view.

We find in the human species, as well as in most of the lower orders of animals, two organs of sight, but which, as regards the function of vision, should nevertheless be considered as *one single organ;* their analogous distribution of nerves and muscles, their perfect unison in motion depending upon this distribution, the necessity there seems to be that objects should be painted upon the same relative part of the retina of each eye, appears to indicate that nature has constituted them *one organ.* Whether this unity of function could be extended to the microscopic eyes of insects, our present knowledge of comparative anatomy will not permit us to decide.* In the human subject, however, it is evident.

The general phenomena of vision is sufficiently well explained by the present known laws of optics. It is known that rays of light proceeding from objects or bodies, after passing through the different humours of the eye, and having undergone certain changes as regards their direction and colour, are received upon the retina or expansion of the optic nerve, and there form an image resembling the object from which they emanated; the image, however, is much smaller than the object, and inverted. These facts are sufficiently proved by the examination of the recent eye of an animal, and also by instruments constructed to resemble the human eye; but upon examination we will find that the eye, however recent it may be, has lost its adaptive powers,† and optical

* Our own organ may be rendered microscopic by substituting for the natural pupil, (which cannot be brought to the requisite degree of minuteness,) an artificial opening. If a piece of card be perforated with an ordinary sized pin, and vision directed through it, distinct vision of minute objects may be obtained within half an inch of the cornea. We find nature has adopted the same mechanism in the formation of the eyes of the chamelion; it feeds upon minute insects, and its pupil is so small as to be scarcely visible to the naked eye. "La fente est d'ailleurs si petite qu'on voit à peine sa prunelle au travers."—*Cuvier, Anat. Comp. d'Œil.*

† The observation of M. Majendie upon the dead eye of an animal is equally true of the camera obscura; in fact, the recent eye is no more than a perfect camera obscura, and in both cases the distinctness of the image will be increased by adapting a pupil of the requisite diameter, and supposing the image on the retina of the recent eye is equally distinct when directed to near and distant objects, yet as we are ignorant of the precise degree of distinctness requisite for vision, no certain inference could be drawn from this fact. If the same thing occurs in the living eye that M. Majendie and others have observed

instruments we know must undergo certain adjustments for their proper adaptation. In both cases the focal distance of the lens must be changed, either by motion in itself, which is a theory advocated by many—or else its relative position as it regards the retina must be altered—or, which is equivalent, the retina or screen upon which the image of the object is received, must either approximate or be removed further from the lens, according as the object viewed is nearer or more remote, unless the organ or instrument be adapted for parallel rays. It is presumed that there is a mechanism by which the animal eye is thus enabled to adapt itself to points of vision at different distances; yet there are some ingenious men who can see no necessity for this power and would explain the function as the result of habit and attention. Notwithstanding, however, the subject has received a great deal of attention, and a great many truly ingenious and interesting experiments have been made, they seem to have tended rather to expose the errors of other theories than to establish the true one.

The eye is unquestionably the most complicated organ in the whole system, and therefore an explanation of its functions necessarily demands an intimate knowledge of all its complicated parts; not merely the general laws of optics applicable to it, but also its minute anatomical structure, as well as the physiological sympathies existing between its different parts. To consider the eye as a mere optical instrument, or even the most perfect "camera obscura," which it certainly very closely resembles, would by no means lead us to an *accurate* knowledge of its general functions, and least of all the peculiar function we are now considering.

In comparing the eye to any optical instrument made to resemble it, we should conclude that the skill and power which formed the one, endowed it with properties which it would be absurd to expect to find in the other. Omniscient skill and Omnipotent power was exercised in forming the human eye and adapting its various parts to harmonize in action, while the optician's instrument, how-

in the dead, that is, all objects, whether near or remote, are equally distinct in outline upon the retina, where will we find an explanation of the fact, that in vision near objects are actually more distinct than distant ones. It seems only to increase the difficulty, whereas, if we admit that near objects are rendered more distinct by a certain adaptation of the eye, (which can be proved even on the recent subject, by making use of a diaphragm having an opening of the requisite diameter,) we at once can account for the different distinctness of near and distant objects.

ever perfect it may be, is, after all that human ingenuity can suggest, but an imperfect imitation of its model.

Among the variety of opinions entertained respecting the adaptive powers of the eye, that appeared the most satisfactory at the time, which supposed an alteration in the spherical form of the eye produced by the action of the recti muscles, whose consentaneous action either lengthened or shortened its axis. The great and permanent convexity of the cornea in near-sighted persons seemed to favour this idea, and it was inferred that a palpable motion productive of this effect would be detected upon examining an eye while in the act of adapting itself to points of vision at different distances. Experiments were therefore made to establish this fact; the eye of an individual was observed through a microscope in such a manner that the slightest motion, if any, would be detected, but no motion adequate to the requisite effect could be observed. Neither could it be fairly inferred that the great convexity of cornea in near-sighted persons was the cause of their defect of vision, for in the ingenious experiment of Dr. Young, the eye, (although the influence of the cornea was destroyed,) still retained its adaptive powers. That a very great degree of convexity in the cornea would be attended with a certain defect, as it regards the adaptive power, is possible; such might be the case in congenital malformation; but it can scarcely be considered as the cause, when this defect is consequent or depending on constitutional derangement, too violent or long-continued action of the organ, or when the eye has been subjected to too intense a degree of light, or even in sudden transitions from one medium of light to another, when the eye, at least for a time, loses its adaptive powers. Cases analogous to those enumerated frequently come under the observation of medical men. A patient now under my care, until the age of thirteen, possessed the ordinary range of vision, but too close application to study together with confinement, brought on constitutional derangement, and upon convalescing this defect of vision was observed, and has continued for a number of years; at the present time occasional indisposition has an evident influence on the adaptive powers of the eye. Mr. Annesley states that hemeralopia or night cecity, is especially prevalent among the people of India, and he considers it as owing to accumulations of morbid secretions in the primæ viæ, and is always remedied by free purgation.

From observing the fact that a double concave lens would remedy the defect in a near-sighted eye by counteracting, as it was supposed the too great convexity of the cornea, it would appear that the chief attention of experimenters had been diverted from the other struc-

tures of the eye, and led them to seek for the explanation of the power of adaption, in the alteration of convexity in the cornea alone. Now there are some instances where no undue convexity can be observed, and yet the eye has not the power of adapting itself to distant vision. We frequently find artists who are in the habit of using one eye only on minute objects, in process of time become near-sighted in the eye so used. If we observe attentively the eye of a near-sighted person, when directed to distant objects, and fix our attention upon the iris, we shall find, when a lens is placed before the eye, that the diameter of the pupil is gradually altered, the iris shortly becomes stationary, and until this change in the iris has been effected vision is not distinct; evidently proving that a certain change must take place in the eye, notwithstanding the aid of the artificial lens.

The influence of the iris in regulating the admission of light did not escape the observation of the earlier anatomists; it was observed invariably to expand in an intense, and contract in a less vivid light. If the eye be directed for a moment towards the sun, the pupil attains its least diameter. The reverse takes place in the entire absence of light—the pupil is enlarged to its greatest extent. Such a provision was necessary to guard the delicate organ from the effects of intense light, but experiment and observation would lead to the conclusion that the iris, besides possessing this instinctive power of self-preservation, influences directly the function of vision, that while it excludes from the eye too intense a light, at the same time it has the power of admitting only such rays as are necessary for distinct vision. We might consider the iris as acting under two kinds of sensibility, or perhaps mere modifications of the same sympathy—that sensibility which protects the retina from too much light, and that *visual* sensibility, (if we may be allowed the term,) which, when the iris has adapted itself to the intensity of light in the surrounding medium, adapts the pupil to the admission of only those rays which are requisite for distinct vision. To be assured of this we have only to observe the eye while performing its function of vision, when it is directed generally to a distant prospect; the iris is adapted to that degree of light consistent with its normal function, but the instant an object is singled out in the distant prospect, we can observe a sensible alteration in the diameter of the pupil, the result of a new impulse, and on closer observation the iris will be found to vacillate as the object singled out is more or less *distinctly* seen; or perhaps it would be more correct to say, the object becomes more or less distinct in accordance with the motion of the iris. The

motion of the iris when objects are viewed at different distances has been observed, but sufficient importance has not been attached to it. Under the influence of solar light, this visual sensibility of the iris is much less apparent than in its absence; its motion, however, is sufficiently evident even to the naked eye, but in a more obscure light it is palpably manifest.

A case is related by Mr. Travers, in his work on the eye, of an individual who possessed directly a voluntary power of adapting the eye. We are inclined to believe that to a certain extent this power is possessed by most individuals; that is, objects at any point of vision may be rendered indistinct by what would appear to be a very slight exertion of the two internal recti muscles, and if the iris be observed at the same time, it will be found to vacillate, contracting or enlarging as the object becomes distinct, or the contrary. It is true, this motion in the iris, though observable, is not as extensive as when the eye is directed, by candle-light, in quick succession from distant to near objects, and might leave a doubt whether so slight a change in the diameter of the pupil would be adequate to produce the effect.* A consideration of the form and action of the iris, together with the peculiar properties of the crystalline lens, will perhaps leave less reason to doubt the influence the iris possesses of regulating the visual rays proceeding from objects at different distances.

A great deal of minute investigation has been made for the purpose of deciding the question, whether the iris, properly speaking, can be considered a muscle. It appears to be a matter of no very great importance whether we rank it as a muscle or not, provided we can ascertain its structure and function: at any rate, we find it endowed with some of the properties peculiar to muscular fibre, and it is sufficient for our present purpose to consider it as such. It is certainly a tissue endowed with peculiar properties; its sympathies or sensibility is peculiar to itself. Anatomists describe it as a flat, circular muscle, perforated in the centre; this description would be strictly accurate only in autopsic examinations, but will not accord with its actual form in the living animal, especially during its state of dilatation, for then it may be considered rather a funnel-shaped muscle, resembling the surface of an extremely obtuse truncated cone, its top or apex being the pupillary margin, its base the edge inserted or arising from the circular margin of the choroid coat. In the living

* I have, however, frequently been able, while observing the eye of an individual in this condition, to inform him when his vision was distinct or indistinct, by merely observing the changes in the diameter of the pupil.

subject, the pupillary margin is somewhat in advance or anterior to its base or origin, and corresponds in direction with the anterior convexity of the crystalline lens. This peculiar conformation gives to the iris a controul over the admission or exclusion of rays of light, as it regards the lens, which would not obtain were it either a flat muscle, or its points of origin and insertion reversed. This peculiar mechanism enables the iris in the most expeditious and effectual manner to exclude all collateral and unnecessary light, and at the same time admit such rays as come in direct lines from the object viewed, and confines them to the central portion of the crystalline lens. Had its base or insertion been anterior to its pupillary margin, it is evident that the diameter of the pupil could not have been adapted to receive the direct rays proceeding from objects, without at the same time admitting an undue and unnecessary quantity of light within the eye; had it been a perfectly flat muscle the same difficulty, though to a less extent, would necessarily follow. Its present form and action, is, like all the works of nature, a master-piece of mechanism, and calculated in the most perfect and admirable manner to produce the desired result.

The action of the iris, its contraction and dilatation, should perhaps be viewed as a motion "*sui generis*," for there appears to be no other muscle in the system precisely analogous to it. In considering muscular action, we are accustomed to connect the ideas of the origin, insertion, and fulcrum of each muscle, and from thence infer the intended result or effect produced by their contraction, but in the iris we find only its origin, unless we consider its pupillary margin as its insertion, but even then we want a fulcrum; in fact, its muscular motion is peculiar to itself; the tongue is the only muscle analogous to it in action, for after protruding the tongue beyond the teeth, as far as the motor muscles attached to its root and inferior surface will permit, we still have the power of elongating and of moving in different directions the end or tip to a considerable extent. This power is possessed in a much greater degree by many of the lower orders of animals—the cow, sheep, dog, &c.; the cow can thrust its tongue a considerable distance within the nostrils; it is, we conceive, an analogous species of muscularity by which the leech and common earth-worm are enabled to move.

Such being the admirable mechanism of the iris, we shall have less hesitation in admitting that a very slight alteration in the diameter of the pupil will be fully adequate, not only to regulate the proper quantity of light, but also controul the admission of the necessary visual rays. It may appear, however, more satisfactory after taking

into consideration the peculiar properties of the crystalline lens. It will be sufficient for that purpose to consider the lens of the human eye as a transparent substance, having its two surfaces composed of equal segments of the same sphere, and consequently will possess the common properties of the optician's instrument, denominated the double convex lens; its actual form, according to PETIT, is that of a compressed sphere having its anterior surface the segment of a greater sphere, its posterior the segment of a less. The changes, as it regards direction, that rays of light undergo in passing through a dense medium of this configuration, can be ascertained by experiments upon the artificial lens with a sufficient degree of accuracy to enable us to draw conclusions relative to the powers of the natural lens of the eye. The general properties of a double convex lens are, that rays of light which pass through it *furthest* from its centre or axis, are made to converge the soonest, and those rays which strike *nearest* to its centre or axis converge the least. All parallel rays in passing through the lens have the greatest focal distance, and it is this point, the focal distance of parallel rays, by which opticians designate the power of their different lenses, calculated either by the convexity of the sphere, of which they are a segment, or else from actual measurement, by receiving the rays of light from the sun, which rays may be considered as parallel, owing to its distance.

According to the known laws of optics, rays of light proceeding from objects at different distances, after passing through a double convex lens, are brought to different foci, the rays of light from the more distant objects being parallel, have necessarily the longest foci; the same object, if brought nearer the eye, and seen in its full magnitude, must be seen by converging rays, the focal distance of which, according to the laws of optics, would be less than when the object was more remote, and consequently in one or the other instance vision would be defective—if distinct in the remote, it would be indistinct when the object was brought near, or the reverse. Such would be the case in an eye wanting an iris; such we find is the case in optical instruments, the "*camera obscura*," &c.; the defect in either can be remedied by the same or nearly similar means. The iris being capable of contraction or dilatation, accommodates the pupil to the admission of only a certain number of the more parallel or direct rays whose focal distance is uniform, and at the same time excludes all indirect or collateral light, which, if admitted, would only tend to render the image indistinct. In the camera obscura the same effect may be produced by substituting for the iris artificial diaphragms; in the instrument now before me, though imperfect in its

construction, the screen upon which the images are formed, may be moved considerably beyond the focal distance of the lens, so that no objects whatever appear upon it, and by interposing an artificial pupil of a certain diameter, objects become apparent. It would appear that the interposition of the iris, while it excludes a portion of the indirect rays, confines those that are admitted to the central part of the lens, where they consequently undergo less refraction than if they were suffered to be acted upon by parts further from its centre or axis, and consequently have their focal distance increased. The opinion entertained by Mr. Travers on the adaptive power of the eye, was based upon the supposition of a change of figure in the crystalline lens. He supposed it an elastic body, influenced by the muscular action of its surrounding parts, and that both its figure and site were changed, whereby its refractive powers were increased or diminished. Now, the influence of the iris renders such a supposition unnecessary, because the diameter of the pupil alone will controul or alter the refractive power of the lens, as it regards certain rays, by admitting the rays of light to be acted upon by different parts of the lens possessing at all times different powers of refraction.

The field of *distinct vision* is extremely limited, scarcely perhaps the twelfth of an inch as it regards the retina; if we observe a person while reading, we see the axis of the eyes successively moving from point to point, and can observe, even in our own case, that if we attempt to view distinctly two points, distant from one another the eighth of an inch, we feel sensible of an evident exertion in the muscles of the eye to direct its axis from the one point to the other. In viewing a distant prospect the eye possesses a much greater range, but is also much less distinct, and individual objects in this prospect can only be rendered more distinct by directing the eye to a limited and circumscribed point, and the rays of light emanating from that point must necessarily pass through the more central portions of the crystalline lens.

The perfect structure of the crystalline lens, together with its surrounding mechanism, give to it additional powers; it is composed of concentric lamina differing in density, (and consequently in the powers of refraction,) from the centre to the surface; it is contained within a transparent capsule, between which and the lens is a peculiar fluid, denominated the liquor Morgagni. From its anatomical structure an optician would infer that it was the most perfect instrument of its kind, and the immense extent of vision, from a few inches to millions of miles, would confirm the opinion. Artificial lenses are subject to certain errors, denominated by opticians the caustic curve,

by refraction or spherical aberration; from the established laws of matter, the crystalline lens would be subject to the same error to a certain extent; this defect is counteracted in a measure by its structure, but chiefly by the interposition of the iris; the structure of the lens, aided perhaps by the other humours of the eye, the aqueous, vitreous, &c. render the organ perfectly achromatic. To avoid these various defects, opticians have endeavoured to imitate nature by combining two plano-convex lenses, and interposing a diaphragm between the two plane surfaces; in this, however, they have imitated nature imperfectly, for in the one it is fixed and immoveable, while in the other it is not only possessed of motion, but a motion in every respect subservient to the function of distinct vision, as well as the preservation of the organ. In adapting the spyglass for the view of distant objects, it becomes necessary that the lenses made use of should be brought to their respective focal distances, which is effected by elongating the tube; at the same time this produces an analogous effect to that of introducing a perforated diaphragm, for as the tube is elongated, and the lens removed from the object part of the instrument, the *virtual* diameter of the orifice is diminished, or the range of vision lessened, because those rays of light which would have struck the lens, if near the object orifice, when it is removed further from it do not even reach it, and if placed sufficiently remote, will effectually exclude all but the more direct and parallel rays, which we think are those chiefly concerned in *distinct* vision.

As it regards the defect of vision in near-sighted eyes, as well as that change which is found to take place in old age, it would appear that too much importance has been attached to the influence of the cornea, and accounted for by the action of the recti muscles, and in old age by the absorption or diminution of the different humours. I have frequently examined the corneas of near-sighted persons, where not the slightest degree of undue convexity could be detected; and on the other hand, I have seen many who had unusually convex corneas, and yet did not labour under the defect usually attributed to this peculiar conformation. I have recently had this observation confirmed in the instance of an individual under my care, whose cornea was so extremely convex, that when the eyelids were closed, it formed a protrusion elevating the lid several lines above the sclerotic surface, and evident at a considerable distance when the eye was closed and made to roll in its socket; the adaptive powers of the eye were nevertheless unusually perfect. There are, no doubt, many instances where this defect of vision is accompanied with a great convexity of cornea, but it does not necessarily follow that it should be the cause of it.

This great convexity of cornea, which in the human species is considered a defect, is found to exist in many animals that seek their prey by night. All the animals of the species "Felis" are remarkable for their acuteness of vision; "the eye of the lynx" has become proverbial; like the domestic cat, their corneas being the segment of a smaller sphere, may perhaps be considered much more convex than that of the human eye, but the perfection of their organ would seem to result from the expansive and contractile power of the iris. The immense play of the iris in the domestic cat, and the acute sensibility of the retina to light, is truly astonishing; now the owl does not possess an equal play of the iris, and we find in the broad glare of daylight they see but dimly if they see at all. There is no doubt but the pliancy or mobility of the iris may be increased by practice; we find that artizans constantly engaged in minute work, provided they do not use an artificial lens have the microscopic powers of the eye greatly increased; but the constant and long-continued action of the iris deprives it of the power of requisite contraction for distant vision; and again, sailors who are much accustomed to discern distant objects, and use their eyes a great deal by night, have their respective powers much more developed and perfect.

The pathology of the organ of vision affords a great number of facts which would seem to strengthen the opinion as it regards the influence of the iris in the proper adaptation of the eye. In the fifth vol. of the Medico-Chirurgical Review a case is related of total, though temporary blindness, attended with excessive enlargement of the pupil, and we know that sudden fear produces a similar effect upon the iris, and attended with the same defect of vision. In most cases of "iritis," indistinctness, followed by total loss of vision, commences with the irregular contractions of its muscular fibre; and after the operation for artificial pupil, when the iris has lost its powers of contraction and dilatation, the eye also loses its adaptive power, and requires the aid of artificial lenses. If the irregular contractions of the iris render vision indistinct, it would be important in the operation for artificial pupil, to take into consideration not only the requisite or most convenient diameter of the pupil, but also its form and situation; for Mr. Guthrie in his work on artificial pupil, remarks, that the more the rays of light are directed to the central portion of the lens, the powers of vision are much more augmented than when the artificial pupil is made so large that rays are admitted upon its circular margin. Indeed opticians are generally agreed that only the central portion of their lenses are of use, and by the adoption of diaphragms, they render useless, as it regards the transmission of light,

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any other portion. The central portion may be all that is necessary in optical instruments, as they are generally used to view single objects, or at any rate their field of vision is extremely limited, and only make use of the more parallel and direct rays. But the mechanism of the human eye gives it additional powers. Our bountiful Creator, in giving to the eye of man its powers of adaptation, enables him to survey at one glance immense portions of the universe, and under the controul of his will, by the same power can examine in detail each single object; in like manner the camera obscura possesses a great range of vision, but it possesses not the power like the eye to single out individual objects and render them more distinct. Neither the anatomy nor the physiology of the organ of sight will support the hypothesis which presumes the adaptive power to be the effect of the action of the recti muscles; in fact, this muscular apparatus connected with the eye, is designed for a motion of a different nature than that of changing the spherical form of the ball itself; it is for the preservation of the organ itself, and for the purpose of directing, under the controul of the will, the axis of the organ to the object viewed. To support the hypothesis of the four recti muscles, we must presume that they act in unison, that they all contract or relax at the same moment; this presumption, has however, never been proved by observation or experiment; but supposing they did, it would only produce the required change in the figure of the eye, when its axis was directed in a horizontal direction, directly forward; for the instant the axes of the eyes assume an oblique direction, one of the four muscles must be in a state of relaxation. But if we closely examine the motions of the eye, we will be satisfied that all the muscles do not contract simultaneously, but follow the general law of muscular action throughout the system; that is, when one muscle contracts its antagonist relaxes. It is true we have the power of contracting the two internal recti at the same time, and direct the pupil inwards towards the nose; but we have no similar power over the two external recti, and thereby to direct the axes of both eyes outwards at the same time; and it may be explained upon the difference of nervous distribution—nerves of voluntary motion being distributed to one pair of muscles, and nerves of involuntary to the other; this subject, however, has become one of so much interest, since the elucidation of the nervous system by Mr. Bell, that it should not be even referred to in so cursory a manner. If the influence of the iris is as important as it really appears to be, it will explain those changes which are observed to take place in more advanced life. As we descend in

the vale of years, all the muscles, articulations, tissues, &c. become more rigid and less pliant than in youth, and there seems no reason why the muscular fibre of the iris should be an exception to this general law of nature. When the iris by age loses its activity and pliability, and no longer acts in unison with the visual sensibility of the retina, the eye is in that condition which frequently follows certain constitutional derangements, iritis, or when the operation for artificial pupil has been undergone.

Our limited knowledge of the operation of mind upon matter will not enable us to decide whether the motions of the iris are or are not wholly independent of the will, and the difficulty is still further increased by the complicated nervous distribution to the organ; there is no organ in the system to which so many different nerves are sent, and all designed for distinct functions. It receives nerves of voluntary motion from the third pair, or motores occulorum, a nerve of involuntary motion from the fourth or trochleus, branches from the fifth or ophthalmic of Willis, which is a nerve of ordinary sensation, and this last branch is joined by a nerve from the great sympathetic. In addition to these, the extreme branches of the optic nerve are freely distributed on its internal surface. To explain the sympathies consequent to this extensive nervous distribution, if it could be done, would afford matter for a distinct treatise.

If the views we have taken of the properties of the lens and the influence of the iris be correct, the mechanism by which the eye adapts itself may be better understood. The iris, by its contraction or dilatation, admits the requisite number of visual rays to pass through that portion of the crystalline lens which will cause them to reach the retina at their proper foci, while at the same time it excludes in the most effectual manner all unnecessary light, and all collateral or indirect rays. With this view of the subject, many of the anomalies of vision can be much more satisfactorily explained. The singular defect of vision which occurs occasionally to Mr. Abernethy, the talented professor of St. Bartholemew's Hospital, is of that description which we are rather inclined to believe should be attributed directly to the irregular contractions of the iris, though induced, it is highly probable, by a certain morbid condition of the retina. On certain occasions he can only see one-half of any object viewed; on observing himself in a mirror, but half of his face is distinctly visible; looking at his name upon the door-plate only a part of the letters are distinctly seen. A similar effect can be produced in the instrument now before me, (constructed as nearly as possible to

resemble the human eye,) by bringing the opening in the artificial iris either above or below the central portion of the lens, whereby certain of the direct rays coming from the object are intercepted, and consequently only a part of the image will be distinctly painted upon the screen. The cases which Mr. Abernethy alludes to, and considers analogous to his own, are purely the result of a morbid condition of the nervous system, and cannot be explained upon the known laws of optics. The instances he quotes are those where individuals see, or rather think they see, objects that are invisible to persons around them. Such cases are by no means uncommon, and in the complaint denominated "delirium tremens" are almost a constant symptom. The case related by Mr. A. was that of a gentleman, who, while reading in his study, on turning his head, observed, as he thought, a woman in a red cloak seated in a chair near him. So complete was the illusion, that he addressed her and inquired how she came there; receiving no answer, he ordered her out of his presence, and expostulated with her for not obeying him. At length he rose from his seat, rang for his servant and ordered him to turn her out. The servant assured him that there was no woman or red cloak in his presence; he then sent for his physician, very naturally concluding that his nervous system was deranged.

Now it cannot be presumed that in this instance there were rays of light reflected from a woman in a red cloak and impinging upon the retina of his eye; but it is equally certain that at some former period all this had taken place, and that the gentleman had actually seen just such an accoutred woman, whose image upon the retina had produced a certain impression upon the sense of vision, and at the time the mind may have taken cognizance of it. At any rate, the image once upon the retina left a certain impression, which the organs constituting the sense of vision had the power to exercise and with the same degree of vividness as it had once appeared; not by a voluntary effort of the mind, because it appeared whether he would or not. He might say with Macbeth, "Avaunt and quit my sight, unreal mockery hence!" but there it remained "like the air-drawn dagger, in form as palpable as that which once he saw." In fact, we are hourly convinced that the *mind* has as limited a power of recalling *sensations* as it has in exciting or controlling the functions of the involuntary nerves. It would seem that, that portion of the brain which gives origin to the nerves of *sense*, performs its function to a *certain extent*, independent of the cerebrum, or that portion of the encephalic apparatus which is at present considered the organ or

medium for the exercise of intellect or volition; and the mind, however it may recal its own emotions, the result of sensation, has but a limited power over the *sensation* itself.

Let the mind endeavour to picture to itself the person or portrait of an intimate and absent friend, and after the greatest exertion how faint and indistinct the picture will be when compared to that portrait which we must believe the *senses* conjure up during the partial repose of the intellect. When dreams disturb the curtained sleep, how vivid are all the sensations, and yet in what unnatural and absurd combinations do they come before the dozing mind.

"Strange dreams, that give a dead man leave to think."

Are not these rather the offspring of the senses than involuntary aberrations of the mind? Are not the sensations of the maniac, and the perceptions arising from them, as real and substantial as though they originated from present sensations? and yet we know that the real *material* object, the sound, the smell, and the touch, that once imprinted them on the organs of sense, is not at the moment present.*

Such hallucinations, however, as those recorded by Mr. Abernethy, and others of daily occurrence, should be considered as functional derangements of the whole nervous system, and are to be accounted for or explained by the physiologist and metaphysician, while the defect in his own case is directly owing to an arrangement in the mechanism of the eye, and admits of explanation upon the known laws of optics. For in his own case there were rays of light reflected from a material body and impinging upon the retina of his eye, and we are inclined to believe that upon close examination it would be found that the irregular contractions of the iris brought the pupil in that position as it regards the lens, that the rays of light did not strike equally upon its central portion. The consequence would be that half or a portion of the rays would be intercepted, some of those admitted would be unduly refracted, the remainder would be brought to their proper foci, and that portion of the image would be distinct, the other indistinct or perhaps invisible, according to the extent of the derangement in the action of the iris.

New York, August, 1831.

* Be this as it may, our present knowledge of mind as connected with matter, is by far too limited to lead to any certain conclusions.

ART. V. *Cases of Cutaneous Diseases, with Pathological and Practical Remarks.* By Dr. MILO L. NORTH, of Hartford, Conn.

CASE I.—In the summer of 1818, a child about five years old was affected with a scaly eruption, accompanied with a discharge of limpid and puriform fluid, with heat and soreness, and occupying the neck and upper part of the thorax and shoulders. There were some appearances of disordered first passages.

A mixture of one part of pulverized rhubarb and two of carbonate of magnesia, rubbed in treacle, taken morning and evening, sufficient to procure two or three evacuations daily, in the course of three weeks caused the eruption to disappear, and the skin to become smooth. No external application was used except unguentum sambuci.

CASE II.—Two children of the Rev. C. C. of Vermont, both under five years, were submitted to my treatment in the same season, 1818, for a papular eruption covering nearly the whole surface of the oldest, and entirely that of the youngest. The heat and itching were extremely troublesome, particularly during the night. Several plans of ineffectual treatment had previously been prosecuted under the direction of the physicians in his vicinity. Ten drops of the following liquid were administered three times daily, in an ounce of sweetened water, for several weeks:—℞. Acid. muriatici, ʒj.; Alcohol, ℥j.; Misce. The following ointment was applied to the skin morning and evening:—℞. Adipis suillæ, ℔j.; Acid. nitrici, ℥j; Misce. Their complaints, after a primary aggravation of several days, which I had not then learnt was common in the convalescence of cutaneous diseases, began to yield, and within a few weeks entirely disappeared. The father afterwards wrote me that he had prescribed the same course to the children of several of his neighbours with the same happy result.

CASE III.—Mr. S. B. aged sixty, of good general health, accustomed to all the indulgencies pertaining to the pantry and cellar of a wealthy New England farmer, was affected, in the autumn of 1819, with heat, itching, and redness upon the leg, succeeded by scales, and a secretion of acrid, limpid fluid. These symptoms were most troublesome at night while the patient was in bed. From December 15th to January 15th, 1820, as he was of full habit, and had a strong pulse, he was bled twice, took various cathartics and antimonials,

and had the solutions of acetate of lead and muriate of ammonia applied to the affected limb. From the whole course of these remedies, occupying a month, I could not perceive the least benefit. I had urged him repeatedly to curtail his generous diet, but he conformed very poorly to my request. It became, therefore, necessary for me either to discontinue my visits to him, or to persuade him to comply strictly with the proposed course of regimen. Although I was not then so fully convinced as at present, that in the fluctuations of external and internal disease, that of the skin might so utterly absorb the whole morbid action as to leave the digestive organs free from *apparent* disorder, yet I gave him all the assurance I dared, that if he would enter upon the prescribed course of diet, he might hope very soon to be freed from his trouble.

In reply, he laid it down as a principle, warranted by plain common sense, that while his taste was natural, his tongue clean, his stomach free from oppression, flatulence, acidity, and all uneasiness, his appetite *strong*, and his bowels in a natural state, he was unable to perceive any use in the proposed course of self-denial. To gratify my wishes, however, he would consent for a season to its adoption. He then restricted himself to such a course of aliment substantially as is accordant with our most approved authors of the present day on that subject, including an entire omission of cider and fermented liquors, and, without any modification of the medicinal course, he was quite well within two weeks.

Remarks.—The above case disclosed to me experimentally two facts worthy of observation and remembrance, viz. the comparative importance of the hygienic and therapeutic measures employed, and the mode in which morbid action of the cutis may so absorb the internal disorder of the digestive organs as to allow them to carry on their functions without any manifest disturbance. In the younger members of our profession, it needs both firmness of nerve, and decision of opinion, to persevere in a course of diet and medicine when the patient thinks it unnecessary, and in violation of plain common sense.

Case IV.—*January 22d*, 1823. Capt. H. B. aged eighty-six years, had for thirty years been troubled with ulcers upon the legs, accompanied with a cutaneous eruption gradually increasing to this time. For ten or fifteen years past he had been unable to labour, since which, his disorder had increased more rapidly. Both legs were now enormously swelled, hard, livid, hot, itching intolerably, covered

with *scales* from the toes to above the knees, exposing a red, leathery surface wherever they fell off, and aggravated by an acrid, watery secretion. He was of very full habit, face red, neck fleshy, pulse hard, and tongue somewhat furred. His legs were so hot and painful that he had but little rest till the latter part of the night, when the febrile disturbances kept up in the gastro-intestinal organs subsiding, he was able to sleep till nine or ten in the morning. He had taken brandy sling, temperately, three times a day for twenty years at least, and had doubtless taken spirits more or less ever since the revolutionary war, in which he was an officer. He had always eaten meat two or three times a day with such accompaniments as we are accustomed to see on the tables of our substantial farmers. For some time past he had had a diarrhœa, for which an opium pill had been taken every evening. He had followed no course of internal remedies that had proved effectual. Acetate of lead with laudanum, muriate of ammonia, and various kinds of poultices, had been among the topical applications employed.

After a long time spent in arguments and explanations on my part, and much hesitation on the part of the patient, whether to comply with the terms which I proposed, *in limine*, as a *sine qua non*, or to send me home without prescribing, I succeeded in engaging him entirely to suspend the brandy, cider, and opium, and to confine himself exclusively to rice, crackers, milk-toast, gruel, bread and milk, and other articles of a similar kind. Gingerbread, plain puddings, and codfish, were occasionally allowed. He took, every second day, an active cathartic of sulphate of magnesia in infusion of senna, and on the intervening days, pulv. rhei and magnesia combined as a laxation. His drink was a saturated solution of super-tartrate of potass, with as much of the tartrate of antimony in the same as the stomach would bear without disturbance. Flour was the only application made to the limbs.

Although I had taken the precaution to acquaint him that the first effect of the course would apparently aggravate his sufferings, yet I was not prepared to expect the reproachful look and language I received from my veteran patient as I entered his apartment four days afterwards. As he had never passed the bounds of respectable sobriety, he thought it cruel and unreasonable that the faculty could not cure his sore legs! without depriving him of the good things which Providence had put into his hands. He persevered, however, and within two weeks from my first visit, there was an amelioration of all his symptoms. The diarrhœa disappeared, the swelling, heat,

itching, and redness of the limbs diminished, his breathing became less stertorous, and his sleep improved. The watery humour had changed into a thick, purulent secretion. After this change was effected in the morbid secretion, the following was applied morning and evening in conjunction with the above-prescribed course of medicines and regimen:—℞. Acidi nitrici, ℥j.; Adipis suillæ, ℔j.; Misce. The nurse told me she frequently removed a saucerful of scales at a dressing.

February 17th.—The legs soft, and healing rapidly. All the symptoms improved. Continued same treatment.

March 22d.—Took my leave of the patient. Legs soft. Eruption gone. Sleeps well. Is able to labour. Adheres to the prescribed regimen.

February 25th, 1824.—Capt. B.'s legs are entirely free from any eruption or ulcer. His health and activity constantly increasing. Adheres to the temperance plan.

August 15th, 1831.—The above patient, now ninety-four years of age, is still living, and I presume very well, as I have heard of no illness that has occurred to him.

Remarks.—This extensive eruption and swelling of the limbs probably prolonged the patient's life, by diverting diseased action from the digestive apparatus and brain, and fixing it upon the skin and cellular tissue. While labouring in the field, the abundance of perspiration, and the salutary employment of the muscular energy, preserved such a balance between the income and expenditure of the system, as to preserve a tolerable share of health. But on becoming more infirm, and gradually relinquishing labour, while the reciprocal effects of alcoholic stimuli and high-seasoned food caused him to take an equal amount of nutriment, the balance of healthy action was destroyed, and a constant gastro-intestinal disturbance produced.

At what point, then, did diseased action commence in this case? I answer—in the digestive apparatus. The long-continued practice of stimulation and excessive repletion, had established a *morbid* appetite, requiring such an amount of ingesta to satisfy its cravings as to transcend the digestive powers, and thus, to the diseased appetite, was added constant irritation of those passages. Here the disease commenced—a purely factitious disease—produced by the "refreshments" of the distiller, and the boasted blessings of a generous table and a good cook. Had this individual shared with the Hindoos in their daily allowance of boiled rice, his case never would have reached the ears of the faculty.

He had originally, and has now, an iron constitution. As proof of this, it is interesting to trace the various efforts it manifested to withstand the noxious effects of his regimen. An ulcer upon each leg first availed as an outlet—a wastegate for the disease of the first passages. These becoming inadequate, the skin in the neighbourhood coöperated in sharing the latent disturbance within. This combined affection of the skin and cellular tissue, served for many years as a vicarious disease. In the mean time the system had become so plethoric, and the adipose substance so abundant, that he was thought by his friends to be on the borders of an apoplexy.

Hence, although there were no positive proofs that the brain was *diseased*, yet we need have no hesitation in saying, that the danger of a sudden failure in that organ was greatly diminished by the cutaneous affection, and, therefore, that this last affection held a pathological relation to the brain, as well as to the gastro-intestinal organs. The large intestines were at length enlisted in behalf of the individual, by a copious, watery secretion, in form of a diarrhœa. This, had it not been thwarted by the opium pills, would doubtless have diminished the plethora, and alleviated the febrile disturbances constantly propagated from the gastric organs. As it was, the diseased process was rapidly increasing in the lower extremities, manifested by the swelling extending above the knees, and by an aggravation of all the symptoms above-described.

From the history of the above case, and the result of its treatment, are we not warranted in the conclusion, that the disease commenced in the gastric organs; that it existed there in a latent state; that, in consequence, the brain became predisposed to disease; that the chronic affection of the lower extremities was sympathetic of the original disorder, vicarious in its nature, and tending to diminish the danger of the more central organs? The writer is fully aware that these suggestions do not put on the air of novelty to those who are acquainted with the pathological doctrines of this enlightened period. But as truth is the only object of his inquiry, and as the above case and its results are substantially similar to many that have occurred to him, and which might be adduced, he deems it matter of gratulation, rather than of apology, that a line of practice which has been, almost without exception, successful, should be found conformable to pathological opinions already established.

I have hitherto confined my remarks mostly to the connexion between diseases of the skin and those of the stomach and associate organs. That there is an intimate connexion between the *secerning*

functions of the skin and the lungs, kidneys and bladder, there can be no doubt. But my own observation has not furnished any striking instances of association in the *diseases* of the skin and these organs.

In the various instances of recession and reäppearance of eruptions which have fallen under my notice, I do not recollect an instance in which the kidneys, spleen, or bladder, have appeared to be the seat of the disease which had been thrown vicariously upon the dermoid system.

Disease, in its various metastases, occasionally passes from the brain, heart, or uterus, to the cutis, and vice versa. The liability to such alternations should be kept in mind, both in reasoning upon cutaneous affections, and in their treatment. Yet the pathological connexion of these organs with the skin is manifested so rarely in actual practice, as to render it unnecessary to trespass further on the patience of the reader in its consideration.

That *non-contagious cutaneous diseases, in this climate, generally originate from, and are connected with, a previous morbid state of the stomach, small intestines, liver, and pancreas, may be further established by the following considerations.*

1*st.* From analogy. Gout, erratic rheumatism, itching at the nose from worms, ophthalmia, amaurosis, sore throat, hysteric paroxysms, convulsions, and numerous other irritative diseases, are generally admitted to arise from sympathetic connexion with these organs.

2*d.* From the consideration that the mucous membrane in the immediate neighbourhood of these organs, and lining them, is the intervening barrier between the general system and all noxious substances swallowed, and is destined to receive their first effects. In animals provided with instinct, directing them what to choose and reject, this membrane may pass for years without disease. But in omnivorous man, this delicate organ is brought in daily contact with articles injurious to its texture and functions; such as tea and coffee at a temperature wholly insupportable to the skin, distilled liquors that cannot be held in the mouth five minutes without sensible pain, acrid and corrosive condiments, rich gravies, pastry, sweetmeats, and in short all the mischievous inventions that the art of modern cookery has congregated from the animal, vegetable, and mineral kingdoms. Nor is the *quality* of these agents all. They are rendered so delicious to the palate, that, in this land of abundance, they are taken in at least double the necessary quantity; and the physician who undertakes to combat American diseases, and overlooks these multiplied causes of gastro-intestinal disturbance, has yet to learn one of his elementary lessons. I have seen a copious crop of

fiery, itching pimples follow within a few hours a free indulgence in pickles, hard peaches, almonds, nuts, fresh pork, or minced pie. I have seen these disturbances as speedily subside by taking one or two compound rhubarb pills, or other bitter stomachic. As all persons are not predisposed to diseases of the skin, other sympathetic effects may be manifested from these noxious impressions; but those who labour under this predisposition, and are willing to observe the effects of particular articles of diet, can perceive an immediate aggravation of their eruption after indulging in the forbidden diet. These effects are often so speedy as to demonstrate that the gastro-intestinal membrane must be the part that suffers: for it must seem impossible that the first operation of an emetic, which removes the internal agent and external disturbance together, can eliminate any foreign principles that may have found their way into the blood.

3*d.* The proposition is supported by post mortem examinations. The number and variety of lesions in the gastro-intestinal mucous membrane that have been recently reported in our medical journals, show unequivocally that these lesions have heretofore been overlooked. These instances of ulceration, erosion, thickening, and inflammation, are precisely what we should expect from the structure and functions of this membrane. Dr. Gregory remarks that "the pain which accompanies inflammation of the mucous membrane is slight in comparison to that of inflammation of the serous membrane. The intestinal tract is remarkably prone to run into ulcerative action, and the rapidity of this action is worthy of note." *Practice, I.* 276. "Pustulous inflammation in the follicles of the mucous membrane is a disease which readily assumes a chronic character and often terminates in ulceration of the affected cryptæ." *Bayle and Hollard's General Anatomy.* "Without attempting to judge of their reciprocal influence, it is evident that cutaneous diseases often coïncide with inflammation of the internal organs." *Biett's Lectures.* "At times diseases of the lungs or alimentary canal are met with, (in dissecting fatal cases of erysipelas,) whose existence had never been suspected." *Ibid.* "Ulcers are very rare on the inner membrane of the trachea and urethra, but very common on the inner membrane of the large and small intestines." *Baillie's Morbid Anatomy.*

4*th.* The similarity of structure between the skin and gastro-intestinal membrane, strongly marks the connexion between the diseases of those surfaces. Indeed, these organs are considered in structure nearly identical by anatomists, from Bichat downward, differing only in the absence of the inner cuticle; and even this is supplied by a different substance lining those parts of the intestinal tract

where the epidermis cannot be distinctly separated. The alterations of disease from the external to the internal tegumentary membrane, and vice versa, are like the wanderings of erysipelas, erythema, or herpes from one part of the skin to another. The blotches of the rum-drinker's face are the mere effects of continuous inflammation, and are the index of the scorched and reddened state of the inner surface, which has endured the burning stimulus of gallons and barrels of diluted alcohol. But these considerations are too obvious to detain the reader longer on this head.

5th. Another proof that the gastric organs are the primary seat of disease in cutaneous affections, is drawn from the fact, that in most instances these organs manifest immediate signs of disease in cases of sudden recession of eruption from the skin. This is more especially noticeable in the minor eruptions, such as erythema, roseola, lepra, psoriasis, &c. Every physician knows that patients are uniformly worse in their general health when their disorders have "struck in." Salt rheum and erysipelas, the former of which in common language answers both to lepra and psoriasis of Bietr, and the latter to erythema, meet us at every corner. In all cases where the patient's disorder is not of a grave character, there has been a uniform connexion between the gastric organs and skin in these alternations, as evidenced by nausea, faintness, fluttering, pain in the side, stricture about the epigastrium, &c. It is a common occurrence to observe sore ears and other eruptions in children cured by a spontaneous diarrhœa. There is no doubt, however, that the brain and lungs do occasionally receive the burden of a receding eruption.

And here I beg to be distinctly understood, that in establishing the connexion between the non-contagious eruptions and the gastric organs, and the fact that these organs are diseased antecedently to the skin, I do not pretend to explore the ultimate origin of disease. The diseases of both these localities may be, and probably are, the *effects* of an ulterior but obscure cause, influencing the whole habit of body. We say of a fatal erysipelas it has "struck to the brain." But who does not know that the inflammation of the external teguments in erysipelas is nothing in comparison with that which is produced by burns, scalds, &c. and which is attended by no danger? How plain it is that the cutaneous inflammation in the febrile form is the mere index to the deadly disorder within. The popular pathological opinions of the day would refer the ultimate cause of failure to the brain and nervous system. This may be the true explanation: but we are to keep in mind that the lesions already alluded to, which late dis-

sections have detected, are more unequivocal in the lungs and first passages than in the brain.

In cases of the recession of long-continued cutaneous disease being followed by death, "it is not improbable that some fatal mischief arising from some ulterior cause had so weakened the powers of life, that nature was unable to free herself longer from that encumbrance she used to throw off upon the skin."—*Heberden.*

6th. The last consideration I shall adduce is derived from the means employed in the cure of cutaneous diseases. Cathartics, tincture of cantharides, and the arsenical solution skilfully managed, and accompanied with a strict attention to diet will lead to very satisfactory success in the treatment of these complaints. It has been my own plan to commence at once with cathartics, much in the manner recommended by Dr. Hamilton. Calomel, calomel and jalap, senna and sulphate of magnesia, have been favourite articles, and given every second day to produce free catharsis. In the intervening days a laxative of powdered rhubarb and magnesia. This course should be continued, if necessary, at least four weeks.

As to diet, no absolute rules can be given, but I have seldom known such a patient bear fresh pork, sausages, rich gravies, pastry, nuts, pickles, raw vegetables, stuffings, acrid condiments, or any farinaceous substances recently cooked. Cider and all fermented liquors and fresh pork I have found particularly injurious. I have noticed that melted butter and fat are more indigestible than the same articles in a solid state; and this is accounted for on the principle, that when masticated with bread and other articles, they render these substances impervious to the saliva. Even in a solid state they are to be used very sparingly if at all.

Local applications are always thought necessary by the patient, and are of use, though in a very subordinate degree compared with internal remedies. I have found nothing equal to nitric acid and lard, in the proportion of one ounce to the pound. If the diseased surface is quite hot and inflamed, the ointment should be weakened by the addition of an equal quantity of lard, and even this should be delayed till the surface indicates some improvement from the internal remedies. I formerly used to raise the lard to a high heat, and gradually add the acid, which was thus decomposed, and an oxygenated ointment formed. This has appeared to me more efficacious than the same composition formed without heat. This should be applied every evening, and followed in the morning by a tepid alkaline wash, consisting of ʒij. of the sub-carbonate of potash or soda, to one pound of

water. When the eruption is general, an occasional warm bath in the evening, containing from four to eight ounces of one of the above articles, would be desirable.

Should the skin not become decidedly improved in four weeks, the cathartics should be suspended. The daily administration of an aperient, of rhubarb and magnesia, with a blue pill, every evening, will often effect a cure if continued several weeks, and if the patient can be brought to a rigid obedience of the rules of regimen.

If these measures fail, let five drops of the tincture of cantharides be given every morning for six days, when it will be proper to increase the dose, one drop daily, till heat at the epigastrium, or symptoms of strangury, show that it has arrived at the maximum dose. The medicine can then be continued in a somewhat less quantity for four or six weeks from commencing its use. By this very moderate medication, the patient is acquiring more restraint over his morbid appetite by his lengthened discipline: an acquisition of great moment to an individual possessed of a predisposition to cutaneous affections.

Should the cantharides fail, continuing all other means, it would be necessary to commence the use of Fowler's arsenical solution, in the dose of three drops every morning, eating a light breakfast, and gradually increasing it to twenty drops. In the dose of twenty drops twice a-day, I have known it produce surprising effects in the rapid disappearance of an extensive cutaneous and subcutaneous affection of the back. The mucous membrane of the stomach was, however, so much irritated by these powerful doses, that a severe ophthalmia was sure to be produced if the medicine was continued over ten days at once.

If, by thorough explanations and arguments, the patient can be brought to a compliance with the prescribed diet, and made to feel that thence forward he is to use great caution in the indulgence of appetite, the most difficult point is gained. This difficulty is the grand reason why we meet with so many incurable cases. It will be seldom in our climate, that, with this point gained, one of the above courses, and generally that of cathartics, will fail to restore the patient to health.

The inquiry arises, and it shall be despatched very shortly, how does the mode of treatment illustrate the connection between the diseases of the gastric organs and the skin? No language can form a more appropriate answer than the following, applied by Dr. Good to a singular and very obstinate case of lichen: "The patient was at length fortunate enough to be put upon a brisk course of calomel, of

which he took five grains every night, with a purge of rhubarb or cathartic extract next morning, for nearly a fortnight in succession; and, having thus transferred the morbid irritability of the skin to the intestinal canal, the disorder left him."—*Study of Medicine. V.* 379.

This, say the disciples of Broussais, is substituting one disease for another, and is producing internal perturbation. The charge is admitted. We apply our remedial agents to the internal tegumentary membrane, while they, by a much more operose method, apply theirs to the external surface by means of leeches, douches, medicated baths, blisters, cataplasms, &c. The practice of Broussais is equally a perturbating course, but applied to a different part of the tegumentary system, with this important difference, that, relating to the diseases in question, it is far less successful. In the administration of calomel, jalap, senna, sulphate of magnesia, cantharides and arsenic, the impressions are primarily and chiefly produced upon the stomach, small intestines, and auxiliary viscera. Tincture of cantharides, applied to the skin, produces vesication. In sufficient doses it must produce an analogous effect on the internal surface. The well known action of arsenic on the skin points out its effect internally. If a solution of tartrate of antimony be *frequently* given to a patient in peripneumony, to the extent his stomach can bear, and if it be prevented from passing below the stomach and duodenum by calomel and opium, there is produced a crop of pustules on the membrane in question, as is demonstrated by the pustules which appear in the mouth and fauces. And this has long appeared to me a satisfactory explanation of the success of the Italian method of treating pneumonic inflammation; that, by blisters externally, and a factitious disease in the œsophagus, stomach, and duodenum from antimony, the organ originally diseased is surrounded by artificial inflammation, and by the coöperation of the calomel and opium, speedily extricated from danger. If the antimony is allowed to pass into the large intestines, the internal counter-irritation in the immediate neighbourhood of the lungs is prevented, and the principal benefit of the practice is thwarted.

The fact is, the stomach and small intestines are the seat of injuries from without; there disease is first enkindled. By the salutary tendencies of nature, these organs are allowed to perform their functions without transmitting to the sensorium any notice of disease there, while the vicarious, morbid action is thrown upon other parts of the system, and, in patients predisposed, upon the skin. To remove this vicarious action of which the individual complains, we ex-

cite impressions in the very seat of the disease, which are styled perturbations, but which being artificial, serve to transplant the original morbid action, and substitute a new one. This, after being continued from two to twelve weeks, wears out or eradicates the original disease, and then both the vicarious disorder without and the artificial one within necessarily cease.

Hartford, Conn. August 29th, 1831.

ART. VI. *On the Use of Conium Maculatum in Affections of the Female Breast, and in Cancerous Ulcerations.* By STEPHEN W. WILLIAMS, M. D. late Professor of Medical Jurisprudence in the Berkshire Medical Institution.

I BEG leave to select for the Journal the following cases from my medical and surgical note book, in which I have long been in the habit of recording what I conceive to be important facts and cases.

Cancerous ulcerations.—Under this head I propose also to treat of the sequelæ of mammary abscesses, which, if neglected, frequently terminate in cancer. I am inclined to believe that a remedy will yet be found for the cure of cancerous affections, and I think the faculty have underrated the powers of conium maculatum in these cases. This medicine was in high repute with the ancient physicians; probably by them it was too much extolled, and like many valuable medicines which were employed by them, it has, from this circumstance, gone into disrepute. Medicine, like other things, has its fashions. Within half a century, bleeding and powerful depletions have been in and out of fashion at least half a dozen times. Bleeding is now in vogue to a great extent, particularly in chronic affections of the lungs and liver. A reäction will probably soon take place, for, like all violent complaints, a crisis soon obtains. I believe in no *catholicon* in any complaint: what may be useful in one may not be in another, or even in the same in different individuals, owing to peculiarities of constitution. Yet I think that facts in favour of conium maculatum are multiplying. The following have occurred in my practice. I am not able to state them so minutely as I could wish, as many years have elapsed since some of them occurred, and I took no notes of them at the time.

CASE I.—A woman from Hawley called upon me in the summer of 1820, with an indurated breast. Several months previously she had

had a milk abscess, but I do not recollect whether it had ever been opened. At any rate the whole breast became completely indurated, and did not yield to any remedies her physician prescribed. At the time I saw her, the breast was large, the whole substance of it was indurated, unequal, and knotty, and all the integuments of it black. There were very slight constitutional symptoms. I directed the use of the white pond-lilly poultice, (Naphe advena,) for a few days, hoping by the use of it to induce suppuration. After this, if any hardness remained, I prescribed the powdered leaves of conium, commonly called cicuta, and directed them to be sprinkled upon the poultice, and if they could not be obtained, I advised the use of a plaster of the extract of conium, and to continue the use of it as long as any hardness remained. I directed at the same time the internal use of the extract, beginning with small doses and gradually increasing until constitutional symptoms appeared. I am not able to give a detail of the progress of the cure, but I learnt that she followed my directions, and in the course of a few weeks was completely cured.

Case II.—Mrs. K. of Greenfield, soon after delivery, was severely afflicted with milk abscess, which suppurated, and was opened several times. It was many weeks before the abscess healed. After it did heal, the whole of the breast became indurated, and as hard as stone. Various discutients were applied, such as mercurial ointment, camphorated liniment and spirit, &c &c. to no effect. I applied a plaster to her breast of the extract of conium, which she continued for several weeks, and recovered completely.

Case III.—Mrs. G. of Sunderland, had borne several children. Soon after the first one was born, she had a severe milk abscess. She was not able to suckle her child any more from that breast. With each succeeding child she had abscesses in the breast, which became more and more severe. The indurations which succeeded remained from one pregnancy to another. At last obstinate sinuses followed, which were laid open in all directions; these were followed with very troublesome funguses, which discharged a great quantity of fetid sanious matter, and yielded to no remedies which had heretofore been administered. A celebrated surgeon who attended upon her repeatedly, told her that there was no other possible chance of saving her life, than by removing the breast by the knife. She was pale and emaciated, and evidently rapidly declining. She was unwilling to submit to the operation, and sent for me. I found her as above de-

scribed. I was inclined to believe that the surgeon was correct, and that the breast must be removed, but she was so anxious to try something else, that I consented to gratify her. I put her upon the use of the conium pill, and directed the use of the pond-lilly poultice, sprinkled with the powdered leaves of the conium. In a few days I saw her again. The matter discharged was much more bland, and less in quantity. It continued to decrease, and by the time that constitutional symptoms from the use of the pills manifested themselves, the sinuses were dried up. I then directed a plaster of the extract to her breast, which was worn till the indurations were completely removed. She recovered. She has since had children, but her breast has never troubled her any more.

Case IV.—It is but justice to remark, that in a subsequent case I have used the conium without success. The case was, however, somewhat different. Mrs. S. of Conway, applied to me for advice in the winter of 1826. She was between forty and fifty years of age, and had ceased bearing children. She first noticed an induration in her breast a few months before. When I first saw it the whole breast was diseased, and of a stony hardness. It was much enlarged and puckered near the nipple. The skin was excoriated, and an ichorous matter was discharging from it. She had sharp, lancinating pains, and every indication of real cancer, attended with constitutional symptoms. It was my opinion that a resort to the knife was now too late. I directed the external and internal use of the conium, in which she persevered a long while without avail. A cancerous ulcer succeeded, which destroyed her in about nine months, which was the most rapid of any thing of the kind I had heretofore seen. This, and some other cases of cancer, forcibly reminded me of the lines of old Turner, and likewise of the almost absolute necessity of immediate extirpation of all malignant scirrhosities of the breast.

"Is there a man you hate,
Or wish the hardest fate,
Bid neither plague nor pox,
Nor fam'd Pandora's box,
Bid neither gout nor stone,
But, letting these alone,
If wretcheder you'll make him,
Then bid the *cancer* take him."

Case V.—The following case promises a better result. Mrs. F. of Buckland, called upon my father and myself to consult us upon an affection of her breast, in the summer of 1827. She was between

forty and fifty years of age, and her youngest child was about four years old. She had been troubled with milk abscesses with her former children. When young, her breast had been injured, probably from pressure from the use of stays, a prolific source of cancer of the breast. The nipple was flattened, and she was never able to suckle from that breast. At the time we saw her the nipple was drawn in, and the breast around it was much puckered. It had been in that situation several months. The whole circumference of the areola was enlarged and tender. There had been an abscess under the lower part of the areola which had discharged, and still continued to discharge a small quantity of thin matter. The opening would scarcely admit the head of a small probe. It occasionally scabbed over. In the upper part of the breast there was a scirrhous tumour, of a stony hardness, about the size of a butternut. It hurt her to press upon it. She was of the nervous temperament, and had been taking medicine for some time. When we saw her, her physician pronounced, with a great deal of confidence, that it was a case of real cancer, and said nothing but the knife would effect a cure. We prescribed for her the external and internal use of the extract of conium, and a continuance of the blue pill, which she was then taking. I saw her a fortnight after; the swelling around the areola had subsided; the scirrhus had also diminished, and the soreness had left her. The matter discharged was of better consistence. Directed to continue the remedies. Saw her again in another fortnight; she was under the full influence of the conium. She said it made her drunk. Her breast appeared, in every respect, better, and there was every prospect that she would soon recover, and I afterwards learnt that she did recover.

Case VI.—The following case shows that the conium has been successful in a case of *real open cancer.* In July, 1827, I took a short excursion upon our western mountains. On my journey I was requested by Dr. Deane, of Colrain, to visit a patient of his, Mrs. S. who was troubled with an affection of the breast. She had been confined to her room several weeks. On opening the door I most sensibly perceived that most disagreeable smell which is so peculiarly and characteristically attendant upon open cancer. I examined her breast. There was an open, deep, ragged ulcer upon it, nearly the size of the palm of my hand. It was discharging a thin, ichorous, and highly offensive matter, in large quantities, and occasionally blood. It had somewhat the smell of old brass or copper when exposed to heat and moisture. The edges were jagged and callous, and

the whole breast was of a scirrhous hardness. It had been open several months, and there had been an induration in her breast several years. Her constitution was much affected, and she was confined to her room, and the principal part of the time to her bed. The pain in her breast was intolerably severe. The stench was so great in her room that her attendants could not bear to stay with her. At the time I saw her she was taking large doses of laudanum to alleviate her distress. As I had no expectation of curing her, I advised Dr. Deane, merely for palliatives, to wash the breast freely with salt and water, to make use of a carrot poultice, sprinkled with powdered conium, and after the stench was removed, to use the conium plaster, and at the same time to put her upon the internal use of extract of conium, until constitutional symptoms were induced. On the 12th of October, I saw Dr. Deane, who informed me to my great surprise, that Mrs. S. had completely recovered, and that her breast was entirely healed, and as smooth as his hand. The next summer I was called to visit a patient in Colrain, and called on Mrs. S. and found her perfectly well.

I have since used the conium externally and internally with complete success in the case of Mr. H. N. of Greenfield, who, for a number of months, had been affected with scrofulous indurations about the glands of his neck.

Deerfield, Mass. Sept. 1831.

ART. VII. *Reports of Cases treated at the Baltimore Alms-house Infirmary.* By THOMAS H WRIGHT, Physician to the Institution.

CASE I.—*Vaginal tubercle.*—The following case presents a specimen, uncommon for its magnitude, of that form of morbid growth generally located at the outlets of the cavities, upon or near the meeting line of the mucous membrane and the common skin. A young woman, J. Griffin, about twenty years of age, represented to belong to the unhappy class of female profligates, was brought to the Baltimore Alms-house. The persons who delivered her to the charge of the institution gave no account of the cause, manner, or other circumstances of her illness. Its nature was inferred from her course of life, and on that presumption she had been placed in the syphilitic ward for females. On the day after admission the case came under examination, presenting the following signs. Form much wasted, face sallow and wan, deep hectic flush on both cheeks, eyes in-

jected, expression wild and frightened, lips dark red and parched, fauces inflamed, gums spongy and foul, tongue swoln, strong flesh-colour, surface dry, polished. Breathing was hurried, skin hot, pulse small, and past counting with precision. The intellect was disordered, perceptions confused, mind agitative, with a cast of delirious wandering in all the mental operations.

In addition to the symptoms noted, there was an odour from the person of the patient which revealed the existence of some local affection in the sphaceloid state. To inquiry respecting the condition of the external sexual organs, it was communicated by the nurse of the ward, that there existed something about the female parts of uncommon appearance, and in a very foul state. On inspection, a pyriform tumour of great size was observed; its larger extremity below, and suddenly contracted above into a neck or peduncle, connecting it with the left side of the vagina, which was dragged out or prolonged unnaturally by the weight of the pendant mass. The tumour was regular in form, of firm texture, occupied all the upper space between the thighs, and from its size and solidity was supposed to be from five to six pounds in weight. The general aspect of the mass gave the representation of a two-fold manner of development. A regular fibriform tumour seemed to have been first produced, and afterwards a dense crop of small tubercles of the vernicous kind, appeared to have sprouted from the surface of the primary body, and now completely and uniformly overspread it. These surface vegetations were about the size of a filbert, diminishing in bulk toward the root or neck of the tumour. They were round, coarsely granular on the exterior, and bore no small resemblance to our common blackberry in the unripe state. The lower extremity of this great mass, for about one-fourth of its whole length, was in the sphaceloid condition; smell putrescent, colour black red, cuticle desquamated, free sanious exudation, circular line of demarcation to sphacelus, dead structure somewhat shrivelled and collapsed.

By the copious issue of sanies with some hæmorrhage from the sphaceloid extremity of the tumour, the whole mass was blood-stained, so as to disguise its real character and cause it to appear as belonging to the tumours of fungoid constitution, for one species of which, (the cauliflower,) it was at first mistaken. Examination subsequent to the cleansing of the parts showed the whole appearance as above described, and corrected the erroneous opinion first formed. It was now evident that the tumour was a magnified specimen of that form of excrescence, which, under the denomination *verrucæ*, or warty tumours, infest the vestibulum of the female parts of genera-

tion. The present example of that kind of production was not only uncommon for its magnitude, but possessed characters of solidized organization, belonging rather to the fleshy tubercle than to the verrucæ proper. Its locality, its covering of coarse skin, and above all, its surface studded with hundreds of minor warty excrescences, pointed out its relation to that class of tumours, and in connexion with its size and solidity seemed to indicate in the present specimen a combination of the tubercle and the wart. The mass appeared abundantly vascular, as exhibited both by a tendency to somewhat free hæmorrhage, and the detection by pressure on the neck of the tumour of bold pulsation at several points.

The case was at first in no condition for immediate resort to operation. The serious exhaustion of the patient on admission rendered attention mainly and urgently necessary to the constitutional state. To tranquillize and sustain were the indications of the moment, to which removal of the local evil was a remote and secondary consideration; the morbid aspect of the tumour was the consequence, not the occasion, of intense constitutional disorder, developed from other and unknown causes. The tumour was directed to be enveloped in cloths charged with the spirit lotion, applied warm; the general means, small cordial anodynes, (spt. lav., ammoniæ, and tinct. opii,) in effervescing draughts, frequently exhibited until they produced their calming influence. These were aided by sponging with cool spirits the abdomen. Diet light and moderately cordial; rice-jelly, with small addition of wine.

In a few days the aspect of the case was sensibly bettered. Sleep had been procured; the tumult of mind and body was allayed; inclination for nourishment a little restored; strength somewhat revived. Advantage was taken of this state, to remove the now completely dead and offensive portion of the tumour. It was separated by a pair of large strong scissors—but the division was not easily effected, requiring much force and numerous cuts. The substance was tough and harsh, dividing like leather, or raw hide, in the macerated state.

On the decline of fever, and of the signs of gastro-intestinal irritation, the patient was put on the use of bark infusion with the mineral acid, and diet reïnforced. Her improvement, seconded by a constitution naturally good, was constant and rapid. The remains of the tumour, still equal nearly in bulk to a small child's head, assumed the hue and actions of healthy structure; the point from which the dead portion was removed, partly by section, and in part by spontaneous separation, contracted, and was closing in by active

cicatrization. The tumour now presented the following character and connexions:—The mass external to the vestibulum, as before described, was a large oval body, solid, inelastic, and heavy, covered by an extra growth of innumerable small tumours, or tubercles, of the filbert size; colour of the tumour white, resembling common integument, only very coarse, or papular. The neck of the tumour was about two inches long, three broad, (from above downwards,) and one inch thick; its inner face, next the ostium vaginæ, was smooth, like the mucous membrane of that canal on the stretch; the external side like common skin. The labium majus of the left side, with its common covering, was on the outer side of the neck of the tumour; the nympha was distinguishable on the inner surface of the same part; the latter body very small, a transverse ridge merely, scarcely elevated above the plain of the surface. The root of the tumour thus appeared to protrude from between the labium and nympha of the left side, coming out betwixt the ramus pubis on one side, and the vaginal expansion on the other. The flattened, but thick root of the tumour, could be traced some extent up the left side of the vagina, covered by the wall of that canal, but its exact place of origin or termination above the ramus pubis could not be distinguished.

The whole mass was removed by operation, in one of the modes commonly employed for excision of such tumours. To prevent much loss of blood, as well as with the purpose of dividing the neck of the tumour as high as possible, a strong needle, armed with a coarse double ligature, was pushed through the centre of the root close upon the ramus pubis. The ligatures were tied above and below, pressing them well toward the base at the time of drawing the loop. The section was made with a scalpel, cutting across the neck just without the ligatures. Notwithstanding the means employed to obviate hæmorrhage, the dash of blood from the face of the cut was profuse; the ligatures did not effectually compress the portions included, and it was necessary to command the bleeding by firm pressure with the fingers against the ramus pubis within, until the vessels could be taken up. This part of the operation was tedious and difficult, in consequence of the alarm and struggles of the patient, and great retraction of the root of the tumour within the vestibulum. By the tenaculum and the needle, where the latter suited best, the hæmorrhage was controlled without immoderate loss of blood. There was but little inflammation or swelling after the operation. The young woman regained her health rapidly, and in six weeks was perfectly well; reported by the nurse of the ward to be without any thing unnatural about the parts from which the tumour had been removed.

Case II.—*Glandular Tissue, Indurescence, Suppuration, and Excrescence of the Testicle, mistaken for Carcinoma.*—A young man, twenty-five years of age, wagoner by occupation, entered the Baltimore Alms-house with disease of the testicle, ensuing, by his report, to severe and neglected gonorrhœa. State of parts on admission: left testis enlarged to thrice its natural size, hard in places, inelastic, not tender to moderate pressure; surface of the gland rough and fibrous, as if traversed by numerous chords or thin bands; scrotum dark brown colour, contracted close around testis, at many points indented by union with the membranes and gland. From the whole front of the testis protruded a mass of the size of a pullet's egg, of coarse, granular substance, secreting profusely a mixture of sanies and pus. The base of the excrescence was broad and hard, its body elevated, flattened on the top—whole bulk exceeding the size of the testicle; scrotum around the base of the vegetation thick, adherent, and callous feeling. By pressure on the parts, a soft pulpy matter could be made to ooze out at some points where union of the scrotum to the base of the excrescence was incomplete. The funis of the left testicle was thick as a finger, knotted and hard; superficial lymphatics of both groins enlarged; cellular tissue, same seat condensed; inguinal glands swelled and tender to touch. Right testis retracted high, very little altered from natural state, except by adhesion of scrotum, vaginalis, &c. at a few points. Duration of the local disease now, by account of the patient, eleven weeks; parts had never been very painful; occasional sense of stinging and burning in the part—the chief unpleasant feeling.

The man represented the affection of his testicle to have commenced, (while he had gonorrhœa,) by general enlargement of the gland, followed by a dark red swelling on the front part, which slowly gathered, burst, discharged a reddish matter for some time, then large granulations shot out from the cavity of the abscess, and continued to grow and overspread the gland, as they appeared at the time of his admission into the house. The parts had been constantly irritated by riding on horseback in his employment as teamster. The personal appearance and condition of the subject of this affection was strongly marked by signs of constitutional disorder. Form, naturally stout, was considerably emaciated; skin flaccid and sallow; face contracted, look desponding; tongue furred; appetite indifferent; bowels laxative; distressed by flatulence; pulse small and quick; surface dry; sleep irregular and uncomfortable. By all the signs, local and constitutional, the disease of the testicle seemed to be represented as one of the malignant class of tumours, fungus hematodes, or medul-

lare. Operation in prospect was adverted to, as soon as by rest, regulated diet, and suitable alterative medicines, due preparation of the system was accomplished. The patient was put on the use of Plummer's pill reduced in strength, first with opium added for loose bowels, and free use of the diet drink; regimen, boiled milk, rice, and bread. The part was treated by simple fomentation and poultice.

The general circumstances of this case were so much mended after some time in hospital, (end of second week,) that the patient both looked and felt very sensibly better than when admitted; his complexion, spirits, appetite, and strength, were greatly improved. The local disease was not materially altered, otherwise than by greater cleanness, a better secretion, more puriform, from the ulcerous surface; better colour of the fungous growth, and less soreness of the parts, particularly of the inguinal indurations. These changes, slight as they were, taken in connexion with the obvious melioration in the general functions, under mere rest and simple treatment, seemed so strongly to contradict the presumption of malignancy in the disease of the part, that as soon as they were displayed in an unequivocal manner, I did not hesitate to recal the opinion first expressed, and to deprecate the contemplated resort to operation, as unwarranted by the present aspect and circumstances of the case. The local disease was now exhibited as essentially the result of irritable inflammation, aggravated constantly by manner of life, exposure, and neglect. It was noticed as probable, also, that the strumous diathesis was present, and concurred to complicate the affection, both by additional irritability in the habit, and the peculiar tendency it is known to impart, to conversions of textures not belonging to the common forms of inflammation. Hence the chronic induration of the tissues, partial, (tuberculoid,) suppurative degenerescence, and subsequent vegetative development in the part; hence too the manner and form of sympathetic irritation and change in the neighbouring lymphatic and cellular structures.

On this pathology of the affection it was conceived highly probable, that perseverance in the same general regimen, with the steady employment of caustic to the part, would accomplish enough to exclude occasion of resort to direct surgery. By maintaining a good state of the general system, and constantly repressing the products of morbid action in the part, the irritability on which that action was sustained would be extinguished, and a healthy process be set up for repair of the organization. Time realized this expectation. The fungus was touched over daily with the solid nitras argenti, and after-

wards wrapped in poultice. The application gave little pain, and did not excite inflammation. After a few days' use of the caustic, the bulk of the morbid growth was sensibly lessened; continued employment of it brought the tumour down to near the level of the skin, while the discharge from its surface became good, and the margin of scrotum around the base of excrescence softened, contracted, and was cicatrizing.—In a month the mass of vegetation from the testis was demolished, and the general health of the patient reëstablished. As the excrescence wasted, the enlargement of the body of the testicle was found to reduce in a gradual manner, and to resume something of its natural form; its irregular hardness and fibrous feel also diminished. The treatment by caustic was continued as long as any tendency to excrescence was apparent; the poultice was laid aside when the marks of inflammation were dissipated, substituted by dressings with ungt. oxyd. hyd. rub. The part finally cicatrized, leaving the body of gland enlarged in some degree, but without evident signs of disease. The secondary affection of the lymphatics, ganglions, and cellular tissue of the groins, subsided so as to be inconsiderable at the time the man left the hospital.

Case III.—*Fibro-serous Tissue—Osseous Conversion.*—A man, sixty-five years old, school-teacher by profession, was admitted into the Baltimore Alms-house, on account of a scrotal tumour, which had become so inconvenient as to prevent continuance in his usual occupation. The patient betrayed marks of age beyond his time of life. Form thin, skin loose and shrivelled, hair perfectly blanched; in other respects reported himself to be pretty well, had not been sickly, was not conscious of any other disease than the scrotal enlargement for which he had come into the house. The commencement of the tumour was dated by himself five years back; origin spontaneous, or without any known cause.

On examination, the scrotum was developed to a size seldom attained in mature hydrocele, but the tumour differed in shape from common enlargement by vaginal dropsy. The development was almost wholly on the left of the raphé scroti; tumour of that side obtuse conoidal, the apex below; greater diameter near the exit of the chord from the ring. The covering of the tumour, the scrotum, instead of being thick, and somewhat rugous, as is common in hydrocele, was thin, smooth, and glistening. Its thinness was quite remarkable, being scarce equal in density to the skin on the back of the hand. This attenuated integument played freely over an enclosed body; the latter so firm as to yield scarcely at all to pressure, and that only in

places, there being parts or patches of the tumour so hard as to give no sense of sinking under compression; nothing of the elasticity which was distinguishable at other points or places. After much examination by the touch, the reflection of light, &c. the tumour was made out to be a hydrocele of unusual form, and with the peculiarity of the vaginal coat studded by patches of earthy conversion. The plates of calcareous matter in the vaginal cyst were numerous, hard, and smooth on the surface next the scrotum. On the right side of the scrotum existed another tumour of much less size than the one just described. This second tumour reached only half the length of that on the left side, was about the bulk, and had very much the form of a large hen's egg, was perfectly regular and smooth on the surface, with the investing scrotum adapted closely to it, and this integument very much attenuated, as in the case of the other, or left tumour. The body contained in the right side of the scrotum was heavy for its bulk, and every where hard and unyielding to pressure. While the large tumour of the left vaginal sac was irregularly hard, and sensibly compressible in places, (the elasticity of strong membrane tightly distended,) the smaller body of the right side was equally and positively resisting at all points, and wholly unalterable in form by any force which it was deemed allowable to use. The figure of this tumour, the equal surface over which the scrotum glided smoothly, and the feeling imparted to the hand while examining it, all forcibly suggested the resemblance of an egg enclosed in a covering of skin. The lower end of the body was something largest, smaller extremity presenting to the ring. The chord could be distinctly traced entering abruptly, or attached to, the upper end of the tumour, was thin, soft, and perfectly natural, to the point where it entered, or appeared to enter, the small end of the body embraced by the scrotum.

All the marks exhibited by the tumour of the right scrotum made it plain beyond doubt, that the tunica vaginalis testes of this side had undergone complete and universal calcareous conversion. The kind of resistance to the touch was wholly different from that quality of firmness, (often very great,) possessed by hydrocele when the sac is tense and the membrane thickened. In the case before us it was positive hardness, a form unchangeable in the smallest degree at any point, and a surface uniform and equal, insomuch that the scrotum, (as before noticed,) moved over it as if having no connexion whatever with it, other than as a containing envelope. Neither of the tumours were in the least degree painful or tender to pressure, and had never caused inconvenience of any sort but by their size and weight. The space of chord which was free and pliant at the upper end of the

tumours, was sufficient for safe and convenient excision, and after due consideration, the operation, (by castration,) was judged adviseable, and recommended. But when the patient understood that the relief offered him was no less than actual emasculation, his timidity, or his pride, took the alarm, and, under a privilege of going out for some purpose, he left the house, and did not return.

Case IV.—*Muscular Tissue—Calcareous Deposite.*—Among the conversions to which the muscular tissue is liable, suppuration, indurescence, pulpy or lardaceous degeneration, &c. it has been doubted by pathologists of high authority, whether the muscular texture proper, was ever the seat of calcareous conversion, or submitted to that change commonly discriminated by the term ossification. The following case may be added to the scanty record on the affirmative side of this question, and appears to furnish, substantially, the kind of proof which the controversy calls for. Yet this case does not fill the vacancy of evidence on that part of the question which demands an instance of ossification in the muscular fibre, wholly primitive in the seat where it is found; originating in, and restricted to the muscular texture, and not produced or propagated to that organism, by extension or encroachment of the ossific process set up in other tissues, to which such a change is easy or common.

A man, about thirty years of age, was brought to the Baltimore Alms-house, January, 1831, in a state of low exhaustion, ensuing to the joint influence of long intemperance, and much exposure to the rigour of the season. The endeavours to sustain him proved ineffectual, and he died on the third day from his admission. In the examination of this patient when first brought into hospital, it was noticed that one of his legs was very much deformed by morbid enlargement, of irregular figure and singular hardness. There was extensive cicatrization on the leg, as if from former sores; but at this time the surface was no where ulcerated. After death the deformed leg became the subject of examination, and the hard enlargement, inequality, &c. of the limb, was then found to be caused by exostosis of the fibula in its whole extent. Two parallel spines, or ridges of superossification, were produced, from the edges of the fibula down its entire length; they were more than an inch deep, and spread outwards from their line of origin, so as to give the fibula the appearance of a long bony trough, wider at top than bottom. Between the anterior spine or ridge, and the tibia, and raised considerably above them both, appeared a bundle or tract of matter, distinct from both bones of the leg, but nearly as solid and bone-like as either in the greater

part of its extent. In places this interposed substance was made up of hard and soft matter intermingled, and at those points retained a good deal the colour, texture, &c. of muscular fibre, blended with much earthy matter. In other places, some inches in length, the structure of the part resembled an entire rough, bony body. Where the substance under consideration was least solidized, it was very much increased in bulk, forming at two or three points in the length of the leg, large knobs in a semi-converted state, thus showing the cause of the general increase of volume, as well as irregularity of form, noticed in the limb on first inspection of the case. This intermediate osseo-muscular structure was composed of all the muscles on the anterior aspect of the leg between the bones—the tibialis anticus, extensor proprius, pol. ped. extens., long. digit. ped. sc. all degenerated more or less completely into osseous matter, and fused into a complex mass.

Although it appears probable that super-ossification in the present instance was first set up by the periosteum of the fibula, and was propagated to the inter-osseous muscular tissue, yet the conversion of the muscles does not appear to have been accomplished by direct extension, or mere augmentation of earthy matter from the primary source of deposit. The semi-ossified mass of muscles was distinct and separable in its whole course from the bones of the leg, and by osseous development of the fibula inwards, had been pressed up so as to lie above them both. The stimulus or irritation to morbid secretion may have been imparted by similar action in the neighbouring tissues, but the earthy deposit amongst the muscular fibre seems to have been properly the work of its own vessels of nutrition.

Case V.—*Vascular Tissue—Dilatation, Varix, &c.*—A middle-aged woman, long resident in the Baltimore Alms-house, and subject to epileptic attacks, presented the following abnormal developments in part of the vascular system. On the right half of the frontal bone appeared four distinct tumours, or prominences, of a soft, compressible character, and made up apparently of numerous cysts or cells communicating with each other, and thus composing one large pouch or sac—irregularly defined in its base, and lobulated on the surface. One great sac, larger than the rest, was placed near the outer angle of the eye; another occupied the midspace of the superciliary ridge, overhanging and continued upon the upper eyelid, a third stood on the top of the os frontis near the angle of junction with the right parietal, and a fourth was directly over the line of union of the internal

angular processes of the frontis, where they receive the ossa nasi, overlaying the latter bones, and deriving its covering in part from the skin of the nose. All those tumours, or pouches more properly, pulsated strongly in correspondence with the stroke at the wrist, and could all be flattened or emptied by pressure with the fingers.* The coverings of those pouches, the common skin of the parts, was thin and delicate, apparently much attenuated and weakened by distention. Besides the greater sacs already described, numerous small risings, size of large peas or beans, were dispersed over the temporal portion of the right frontal and parietal bone, and a few of the same kind before and behind the ear. These smaller tumours also kept time with the general pulse of circulation.

The state of the arteries on the opposite sides of the neck and head, in this case, was very palpably different. Those of the left side, the common carotid and temporal, &c. felt nearly as they are found under ordinary circumstances; there was, however, some departure, both in the size and action of those vessels, from a strictly natural or common state. Their volume was more developed to the touch, their action sharper, with a very perceptible thrill or jar in the stroke, of the kind denominated aneurismatic. It was in the arteries of the right side of the neck and head, however, that all those characters of faulty state and action were strongly displayed. The common carotid was here very sensibly enlarged; its undue size and overaction palpably evident, not only to the touch, but to sight; its action uncontrolled by pressure, and the current through it attended by a thrill so bold and distinct as to impart an unpleasant grating sensation to the fingers. This peculiarity of movement became greater as the vessel was traced toward its root, and was particularly strong in the innominatum. The dilatation of the common trunk of the artery was participated by all the branches of the external carotid. The occipital, in its tract along the base of the skull, was plainly visible in form and action, and felt scarcely less in size than the little finger. This vessel, as well as the front and middle branches of the temporal, gave distinctly the thrill so remarkable in the common carotid. The general circulation in this case was every where more vivid, marked by a higher tone of action in the heart and arteries, than is common in the female habit.

* The cysts could be depressed by the point of the fingers until something like incavation of the bone was perceived; represented by a hard, rough margin, corresponding to the outline or base edge of the tumours.

The patient's report respecting the duration of the tumours about the head, dated them back about three years; for which period also she had been subject to epileptic paroxysms. The latter had been renewed from that time at monthly intervals, more or less regular. Whether the fits of epilepsy anticipated, in point of time, the swellings on the head, was not clearly discriminated in her own recollection; she thought they had occurred much about the same time, but inclined to the opinion that she had suffered one or two attacks of epilepsy before the swellings on the head were observed. She represented herself to have been much subject to head-ache prior to occurrence of fits, or the local affection, and still suffered greatly from frequent and violent pain of the head. She complained likewise of almost constant annoyance, particularly of late, by a sense of fullness, with a peculiar irritation, in the membranes of the nostrils and palate.

The regular and strong pulsation of the whole group of tumours on the side and front head, their locality in the tract and at the terminations of the temporal artery, with the palpable enlargement and peculiar thrill in the carotid of the same side, all seemed to mark the case as one of arterial dilatation complicated with varix. The case was examined by many physicians and surgeons, who concurred in regarding it as a varicose affection of the arteries of the part, with probably something of the aneurism by anastomosis in the seat of the large pouches. The nature and tendency of the local developments, with their probable agency, if not in producing, in aggravating the epileptic concomitant, suggested a practical resort, which was deemed the proper corrective of the former, and likely at the same time to avert or mitigate the latter. Tying the common carotid was recommended as essential to the cure of the local disease, and affording a chance of arresting the epileptic paroxysms. Such a measure was also indicated by other considerations besides the prospect of relief, or the possibility of cure, it was supposed to offer. The tumours were manifestly on the increase, and the integument of those sacs already very thin, appeared too likely, at some moment, to give way suddenly, and in the absence of proper assistance, might bleed dangerously or fatally. This contingency was the more to be apprehended, inasmuch as the sacs were observed to be always greatly distended, and of deep colour, during the fits of epilepsy.

On the other hand there were considerations of a negative kind as to the success of an operation, which greatly abridged the ground of expectation or dependance on such a mean. Admitting the palpable

superaction, and the varicose state of the arteries on the right side of the head, as the possible origin of the epileptic phenomena, or if not the source of the affection, by all probability a cause of exasperation, and an impediment to its cure, was it certain, or likely, that tying one, or even both carotids, would afford sensible, or permanent relief, in the true seat of irritation and embarrassment leading to epilepsy? Was the state of superaction and dilatation confined to the external carotid distribution? or was it not greatly to be suspected, that the internal carotid branches were also the subjects of preternatural action, and probable varix enlargement. If so, the vertebral anastomotics within the head were sufficient to supply all the congestive derangement required to sustain and perpetuate the epileptic contingency.

This patient had been almost two years in the house suffering attacks of epilepsy, at intervals seldom exceeding four weeks; her general health during the time was very much the same. The only medical regimen consisted in the practice of such depletion, by general bleeding, as the health of the common functions permitted, simple diet, and abstinence from laborious employment or undue exertion. But little change was visible in the state of the patient; the tumours on the head increased more by slow dilatation and thinning of their coverings, than by very obvious augmentation in their volume or extent. Attacks of epilepsy were renewed, with various force, in different paroxysms.

In July, 1830, the patient was attacked by what at first seemed one of her usual severe head-ache's, followed by epileptic invasion—but which, instead of passing off as before, by slow revival of consciousness, &c. glided into a train of symptoms resembling profound encephalitis. She became delirious for a time, soon lethargic, and fell into deep stupor, ending in death after twelve hours duration; third day after seizure.

For the purpose of tracing the vessels, and for preservation of the parts, as a morbid specimen, it was determined to fill the arteries of the head with the common injection. A pipe was fixed in the root of the aorta, the descending trunk and the subclavians closed by ligature, and the injection passed, until from the quantity thrown up, and the distended state of the superficial vessels, the arterial system of the head was supposed to be fully injected. Although the branches of the temporal artery were filled in all its ramifications, the main purpose of the injection had wholly failed; not a particle of the injection had entered the sacs on the head, with which the artery appear-

ed to communicate freely during life, imparting the fullness and pulsation they then possessed.* A few only of the smaller cysts in the tract of the middle temporal branch were raised up to the knotted form in which they appeared before death. The large pouches at the angle of the eye, on the orbital ridge, the top of the os frontis, and over the naso-frontal junction, were flat and empty. The total failure by the injection could only be explained on the presumption, either that the communication of the temporal branches with the cysts on the forehead had been by very small channels, which became obstructed by coagula after death, or else that the great pouches had not received their fullness and pulsation directly from the temporal branches, as was supposed. The latter conclusion appeared most probable, and at the same time pointed to the *veins* as the route of communication with the now empty cysts. This conjecture was realized on trial. When a pipe was fixed in the superficial cervical, the trunk of the facial or angular, in the neck, and the injection pushed on, in a moment every sac was swelled out to the size and shape presented in life. All the cysts were filled, the pristine form accurately developed, and the external resemblance to the living state completely restored. The whole character of the local affection now appeared to be changed. Instead of a specimen of arterial varix, or anastomotic aneurism, for one of which, (or rather a compound of both,) the case had passed with all examiners, injection appeared to have revealed an example of morbid dilatation in the venous system, anomalous by the fact of immense varicose development in the capillary series, the venous radicles of that system. It proved afterwards that the case was of complicate character; and that while the more prominent forms of vascular tumour were really in a part of the venous capillaries, the arterial series of the head had participated largely in the process, both of general and special dilatation. Definite arterial enlargement, (varix,) was as plainly marked, and scarcely less matured, in parts of the carotid distribution, as the venous varices just described. Arterial and venous developments were equiponderant.

The tumours on the forehead as now reformed by the matter of injection, were about the size of walnuts, and appeared to be made up

* It ought to have been mentioned, in describing the cysts, that deep and strong pressure on the right carotid constantly subdued the pulsation in them, to a great degree, and when the pressure was forcible enough to shut the artery in the neck, it extinguished all movement in the sacs, though they still remained full.

by dilatation and anastomosis of the deepest subcutaneous veins; for above each tumour was spread a dense plexus of small veins, finely injected, and overlaying the tumours as a vascular arch or web. The large tumours were closely applied to the cranium, and so firmly attached in their place as to seem imbedded in the bone within the area of their base. In some of them this was found to be the fact: by pushing a common pin obliquely through the margin of the tumours, it penetrated the outer table of the cranium with great ease—the resistance by the bone not exceeding that of a piece of dried bladder; part of the cysts containing the wax were evidently inserted into the cranium as deep as the middle structure, lattice-work, of the skull. The rough and incavated feel of the bone within the limits of those tumours, which was discriminated by pressure during life, was thus explained.

The arteries of the opposite sides of the head were in a very different state. Those of the neck were enlarged on both sides, but the common trunk of the right much more voluminous than its fellow of the left.* The most palpable inequality of size, however, in the two sets of vessels, was found in the branches of the external carotids. The right superior thyroid was as large as a crow-quill, and though the sublingual and facial were under natural size, the occipital again rather exceeded the ordinary volume of the common carotid. The temporal was more than twice the size of the same vessel on the left side, and the branches of the former exceeded those of the latter, in the same ratio, (twofold,) both in number and size: the whole right side of the head, in fact, was overspread by a coarse web of large tortuous vessels, connected by frequent anastomoses. In only one point on the surface of the head did the present state of the arteries realize the idea which had been formed of their condition during life. About the middle of the posterior temporal branch, was a tumour or knob, the size of a small marble, formed by the abrupt dilatation of the lumen of the artery, now filled up and defined by the matter of injection. This was a solitary exhibition of true arterial varix in the set of arteries which had been supposed to betray numerous and large varicose developments. The actual state, then, of the external arteries of the right side of the head was nearly universal dilatation, but that change general and equal, (proportionate,) every where, with one point only of extra or special enlargement.

* The right carotid, one inch above the innominatum, measured one inch and five-eighths in circumference; the left, at the same point in the neck, one inch and one-eighth.

It appeared probable that the process of dilatation was not confined to the external arteries of the right half of the head. When, by removing the globes from the orbits, the ophthalmics came into view, the relative difference of size was as remarkable in them as in the superficial vessels of the two sides: the right ophthalmic was more than twice as large as the left. On examination of the vessels within the head, it was found that the morbid development was proportionally much greater in the cerebral arteries than in those of the cranium. Both the carotid and vertebral members of the great basilar circle were astonishingly enlarged. The communicans of the right side was equal to an ordinary little finger, and bulbous in three places; a knob near the carotid root of this trunk was as large as a musket-ball. The basilaris was rather more than an inch in circumference, and the right vertebral, immediately on rising up to meet its fellow, swelled out into a pouch, which, filled by the injection, was larger than any other of the tumours or knobs in the basilar series. The left communicans was enlarged, but much less so than the right, and it also exhibited points of particular or definite increment of the saccular form. Thus the arteries of the basis cerebri, besides being generally increased in size, were also eminently varicose at many points: the whole circle, and its principal branches, were singularly tortuous, anastomotic, and knotted.

The condition of the arteries of the brain confirmed the surmise about their state which, during the life of the patient, had been urged against the probability of benefit by operating on the right carotid. The extent and relations of the vascular dilatations within the head, rendered it plain that the morbid excitement, or congestions to which they were instrumental, were unsusceptible of counteraction by any means short of total interception of all the channels by the neck. Both the carotid and vertebral members of the basilar circle were dilated and varicose, and every where accessible to the current coming in at any point of the circuit. Whether the relative greater advance in change of capacity in the arteries within the head, than in those of the external carotid system, is to be taken as proof of prior departure from the normal state by the former, can only be conjectural: neither would the settlement of that question determine whether the epileptic state of the patient was the cause or the consequence of degeneration in either set of vessels. The time of origin of such change in the cerebral arteries would remain indeterminate, and the patient herself never was able to realize whether the fits preceded the tumours on the head, or followed their appearance: she supposed them to have taken place much about the same time.

The tone of vascular action in this case had been found habitually above the par of natural excitement. The pulse was always sharper, harder, and more frequent than is common in health; there was also a perceptible thrill of the aneurismatic kind to be felt in all the principal trunks, even of the limbs. The entonic character of action had become constitutional, and was participated by the vascular series every where, and that habit, the usual forerunner of change of capacity, was marked by its common results. The action of dilatation was traceable in most of the greater channels of distribution; but it was in the right carotid, and its branches, that superaction and dilatation were prominently displayed. For this speciality of morbid action and change it is difficult to find an explanation. Enlargement was regular, uniform, and proportionate through the series, from the root in the innominatum to the terminal branches, yet the arterial tissue seemed every where natural—no form of disease or decay in the texture of the coats.

Another phenomenon presented by this case is of difficult solution. It is interesting to know the cause of pulsation so distinct and constant in the sacculated extremities of the facial or angular veins, the superficial veins of the forehead. Was the pulsation at the points in question the effect of successive impulses commencing at the heart, whose momentum was propagated reversely through the descending blood, or the result of a plethoric state of the whole venous system of the head, produced and maintained by habitual overaction of the heart and cephalic arteries? The more distinct statement of those questions would be, first, whether from excessive action of the heart, the ventricles particularly, the return blood of the head was in some degree checked or intercepted at the right auricle, and by the same forcible contractions a successive movement of repercussion or undulation was imparted to the column of fluid resting there, sufficient to be sensible or to give pulsation in the extreme vessels. If pulsation in the primary veins could be thus renewed in accordance with successive reaction, or a certain momentum thrown back by the ventricles, then the operation of the same power would serve to explain the primary change of condition, or the abnormal developments which those vessels had undergone at their extremities. That strong excitement or overaction of the heart may cause a degree of sensible repercussion in the descending venous series, appears to be established, if the statements are credible which we have on respectable authority, viz. that in high irritation of that organ all the superficial veins of the neck have been found beating visibly and palpably in concert with

the pulse. (Hall on Vascular Irritation.) The second branch of this question, is whether continued overaction of the heart and arteries was capable of producing a plethoric state of the brain, with such remora in the sinuses and venous system of the head, internal and external, as would occasion the momentum of the blood entering by the arteries to be communicated to the whole mass of fluid delayed in its return, and thus to fall with a special shock on the extreme veins. If the brain be incompressible, its venous system engorged, and the arteries of the head in full, or superaction, as the blood enters with pulsation, the stroke, in the given state of the veins and sinuses, must be every where imparted to the fluid of that system, giving a correspondent movement or successive undulation, terminating at the venous roots or origins. The sinuses, by their capacity, figure, and defence from strong membranes, are best fitted to resist impulsion of their contents, and thus to direct it toward the extreme branches. Now, a shock of this kind, scarcely palpable among the minute and subdivided terminal series in their normal state, might become very sensible, if at any point or points, by dilatation and anastomosis, many of these radicles came to terminate in one or more cysts. Something analogous obtains in nævi materni; the action of the small vessels of which those tumours are composed, would not be discriminated by the touch in their natural state, yet by some enlargement, and free communication in common receptacles or cells, pulsation becomes strongly revealed.

Case VI.—*Amputation—Venous Hæmorrhage.*—A man was received into the Baltimore Alms-house, October, 1830, with chronic inflammation, swelling, and suppuration of the left knee-joint. The local affection resisted all treatment, topical and general, a deep sloughy fistula, communicating with the articular cavity, opened above the inner hamstring; symptomatic fever was urgent and unremitting, diarrhœa supervened, and the patient fell rapidly toward a crisis of perilous lowness. In this state of things amputation was the only resort. The limb was separated as low down as the condition of parts permitted. The weakness of the patient rendered it important to save his blood as much as possible, so that after dividing the bone, every artery was sought for and tied before the tourniquet was relaxed. When, after securing all the arteries that could be found, the tourniquet was loosed sufficient to show pulsation at the loops of the ligatures, not a single artery was sprung, nor a jet of florid blood visible, but a sudden gush of black blood from the great vein, rendered it necessary instantly to draw the tourniquet close.

An attempt was then made to discover whether such compression as the stump might bear in dressing would be sufficient to command the flow through the vein. For this purpose the soft parts were comprehended in both hands, and very firmly braced around the bone, after which the tourniquet was again cautiously loosed. The moment the ligature on the artery was observed to feel the returning current, the blood of the vein spouted in full stream to the distance of four or five inches from the face of the stump, unchecked by the closest grasp which could be made by the hands. It was now evident that ligature of the vein was indispensable. Its extremity was carefully insulated from every thing around, drawn out and tied. On now loosening the tourniquet, it was found that the hæmorrhagic disposition was assumed by all the secondary veins. Not one, but eight or ten streams of venous blood were projected to the distance of four or five inches, and in defiance of all compression, short of the tourniquet, continued to maintain their full projectile currents. Aware that *partial* compression by the band around the limb favours venous hæmorrhage, the tourniquet was thrown for a moment completely free, the limb raised vertically, and firmly grasped around the stump. Nothing was gained; the rush from the veins was undiminished and continuous, precisely as from arteries. It finally became necessary to apply ligatures to every vein of any size in the stump. In this manner eleven veins were tied up. We were for many days far from unconcerned about the possible consequences of the measure to which we had been forced, but the case went on without a single bad symptom which we could refer to the ligature of the veins. Owing to great exhaustion of the patient by symptomatic fever and diarrhœa contracted prior to operation, the parts about the stump did not cohere well, and a gleety suppuration for some time kept the wound open—indisposed to heal, and finally involved exfoliation from the end of the bone; but there was at no time signs of phlebitis, local irritation, or constitutional disorder, in any manner different from what might have happened had no vein been tied.

This was the first occasion among numerous amputations in which I had found it necessary to treat veins as arteries, and, notwithstanding the apparent harmlessness of the practice in this instance, would never stop veins by ligature where it was possible to avoid their employment.

Baltimore, August, 1831.

ART. VIII. *Case of Traumatic Tetanus, successfully treated.* By ANTRIM FOULKE, M. D. of Montgomery County, Penn.

To the Editor of the American Journal of the Medical Sciences.

DEAR SIR,

My friend, Dr. Antrim Foulke, a most respectable and excellent physician, of Montgomery County, has communicated to me the particulars of a very interesting case of tetanus, which I saw with him during the convalescence of the patient, and which, from the circumstance of tetanus, from a wound, being very seldom cured, deserves to be recorded. You will oblige me by inserting it in the Journal.

Truly yours,

W. GIBSON.

Noah Snyder, aged twenty-four years, a robust and muscular man, of a sanguine temperament, on the 25th of July last received a wound in his leg from a cradling scythe, by which the posterior tibial artery was divided. The hæmorrhage was profuse and obstinate, but ultimately yielded to compression; and notwithstanding the prostration, which was in the first instance alarming, the patient did well, the wound healed kindly, and no untoward symptom appeared until August the 17th, when he was seized with unequivocal symptoms of tetanus, the spasms commencing in the injured extremity, and proceeding along the whole course of the spine and neck, producing a complete incurvation of the body. The jaws, though not entirely closed, were so rigid as barely to admit the introduction of a teaspoon. The contortions of his face were truly horrible, and deglutition and articulation were effected with great difficulty.

I immediately administered a large tea-spoonful of laudanum, had the dressings removed from the wound, and ol. terebinth. applied, and frictions of the same to his spine. Opium, in combination with camphor, was given in large doses at short intervals during the night, which, together with the free administration of brandy, produced towards morning a considerable abatement in the violence of the spasms, and a state of comparative tranquillity. The medicines were continued, but in smaller doses, and at longer intervals. Towards the evening of this day, as the spasms recurred with their wonted violence and frequency, the same remedies which had been used the preceding evening were resorted to, and with a similar effect. He was then left under the almost uninterrupted influence of stimuli for the three succeeding days, but the spasms, though they at no period

during that time attained the same general and alarming violence, still continued to recur at longer or shorter intervals.

Finding that nothing had been, or seemed likely to be, effected by the stimulants alone, and dreading the state of exhaustion and collapse which such powerful and long-continued excitement must superinduce, I resolved to endeavour to break up the chain of morbid action, by making a new constitutional impression. Accordingly, on the fifth day from the first attack of the disease, I commenced giving him calomel, in conjunction with the remedies previously used, and continued it until a complete ptyalism was produced. This was not at first attended with any very manifest amendment of the symptoms, but in a few days, though the spasms continued to excite uneasiness and alarm, they were much reduced in violence, and were, for the most part, confined to the injured extremity. The patient continued in this situation for several days, when I commenced giving him assafœtida in substance, and in large quantities, which was promptly and unequivocally beneficial, for in four days from its first exhibition the disease was entirely removed.

Although I believe the most active and vigorous use of stimulants to have been entirely indispensable, as auxiliaries in the treatment of this case, yet I am persuaded that the breaking up of the morbid condition is clearly attributable to the agency of the mercury. The prompt and effectual influence of the assafœtida, in the latter stages of this case, leads me to entertain a high opinion of its antispasmodic virtues when administered in very large doses.

Montgomery County, Pa. Sept. 1831.

ART. IX. *Observations on the Modus Medendi of Emetics.* By ROBERT J. TURNBULL, M. D. of Charleston, S. C.

WE do not seriously indulge the hope, that there is much on the subject of emetics possessing the charm of novelty which has hitherto escaped the research of the profession. The extent of our present design, is rather to revive certain principles connected with the operation of emetics upon the human system, which, though acknowledged by all as among the most fundamental of the healing art, are too often lost sight of by the regular routine practitioner—together with certain deviations from the ordinary mode of reasoning on this class of medicines, which, if possessed of no other merit, will at least be entitled to the claim of originality.

We cannot, however, but flatter ourselves, that a more extended view of the phenomena which evince themselves upon the exhibition of emetic substances, will conduce much to arrest the progress of diseases of associated action, which ought, and can only be counteracted by agents of equally associated effects upon the system. Fever, a disease universal in its operation upon the system, implicating every organ, every tissue, and every system of vessels, is only to be subdued by remedial agents equally universal in their effects; and in searching the materia medica for a class of medicines capable of accomplishing these indications, none presents such claims to our consideration as the various emetic substances, distributed through the vegetable and animal kingdoms. In combating fevers successfully, the practitioner must pass over the less important and *primary* action of emetics, to wit, the ejectment of the vitiated contents of the stomach, and base all his hopes of success upon those *secondary* effects upon the system, brought about by the depressed condition of the heart and arteries, dependant upon that inexplicable bond of union between distant parts of the system, denominated *sympathy*, and by which depressed condition of the circulatory organs we effectually controul inordinate action in any and every part, whether manifested in the form of simple excitement, or intense inflammatory action.

However, to one conversant with the high encomiums passed upon this class of medicines by the various authorities of the materia medica, it cannot but be evident that the practice of the present day is not based upon those salutary principles, viz. the *secondary action* of emetics, which characterized the practice of the practitioners of the past generation—that a revolution has obtained in the therapeutics of disease which has substituted a mode of treatment widely differing from that of our predecessors—and that the secondary effects of emetics have not only been lost sight of, but that the class of cathartic medicines have in a great measure superseded the use of emetics. It is not, however, a little singular, that the practice and theory of the day should be at variance. While our text-books teem with recitals of the wholesome and salutary effects of emetics, acknowledge their varied and extensive operation on the system, justly commend them as primary agents in combating the numerous diseases "that flesh is heir to;" still, by a strange inconsistency, they are much neglected, not unfrequently condemned on account of some hypothetical consideration, and when prescribed, it is usually with views so limited, as in a great measure to render them, if not nugatory, certainly of extremely limited advantage.

Though the writers of the materia medica have ably portrayed the *primary* and *secondary effects* of emetic substances when acting upon the human system, he who has concentrated his observation upon the practice of the profession relative to the employment of emetics, will readily perceive the necessity of conceding, that they have in a great number of diseases been rejected as dangerous, and even when acknowledged as legitimate resources of the art, have, in a majority of cases, been resorted to with the most limited views, simply prescribed as an evacuant of a stomach morbidly oppressed with accumulated ingesta or vitiated secretions, at once losing sight of those various *secondary phenomena* which invariably supervene upon the introduction of emetic substances into the stomach. Such is the extent of sympathy which exists between this organ and all other parts of the animal machine, that this viscus has, with no less propriety than beauty of expression, been termed the *centre of sympathies.* To attempt fully to trace the causes of this bond of union between the remotest parts of the system, might be involving ourselves in a labyrinth of *cause* and *effect* too intricate to engage the attention at present; suffice it, that we now only advance a theory, which, though deemed inadequate to explain this singular and extensive connexion of the various remote parts of the system, may be a mean of leading other minds to a more thorough investigation of a fact thus far deeply involved in obscurity.

In treating this subject we shall divide the numerous sympathies which manifest themselves, into *direct*, and *indirect*. *Direct sympathy* is that which exists between the *heart* and *stomach*, and we shall denominate it the *gastro-cardiac sympathy.*

To give any plausible conjecture of this connexion between these two important organs—the centres of the circulatory and digestive systems, it will be necessary to resort to another fact, which, though somewhat hypothetical, nevertheless carries with it so much probability, that we think it will be conceded by all.

We would maintain, that every organ, for the performance of its healthy functions, is dependent upon the *brain* for a certain portion of nervous fluid, *vis nervea*, by virtue of which it performs its ordinary functions.

It is well known, that inordinate muscular action, to accomplish which the muscles must be constantly supplied with nervous energy, greatly impedes the digestive process. Great mental exertion, by withholding that *vis nervea*, which is essential to the various organs for the performance of their respective functions,

and concentrating it for purposes of great mental action, necessarily impairs these organs, thus robbed of their due proportion of this essential fluid. Great mental emotion, such as grief, fear, joy, all exert an injurious tendency upon the other organs of the system, by concentrating this fluid in the brain. To this abstraction of the *vis nervea* by the cerebral mass from the other viscera, may be referred the whole catalogue of diseases incident to persons of sedentary habits. The stomach, and in short, the whole digestive apparatus being thus extraordinarily robbed of its *primum mobile*, viz. the *vis nervea*, is still called upon to perform its ordinary avocations in the ordinary manner; that it should not promptly respond to this unreasonable demand, is not singular; that it should consequently perform its functions in an irregular manner, first, by functional derangement of the primæ viæ, as evinced by acidity, flatulence, cardialgia, &c. and after by chronic, gastric and hepatic inflammation, is the natural consequence of the abstraction of this fluid; thus clearly proving that the health of the individual ultimately depends upon a regular and just distribution of nervous energy to the various organs of the body.

Now, by a resort to the old and just maxim of "ubi irritatio, ibi fluxus," may we at once give some plausible conjecture as to the various phenomena which are manifested in the circulatory system, when an emetic substance is presented to the stomach. By an acknowledged law of the animal economy, every organ is endowed with the power of instituting certain processes, tending to avert any causes which threaten the interruption of the performance of its functions. The sensitive fibres of the iris immediately contracts to protect the delicate retina from an intense light, which by over-stimulation would produce organic derangement in this delicate tissue. The intestines, by virtue of the same sanative principle inherent in them, by an increased peristaltic action hurry along the tract of the alimentary canal any substance incompatible with its ordinary and healthy action, and thus it is that the stomach when oppressed by the presence of an emetic substance, would appear, when about to collect its energies, to call upon the neighbouring organs to lend their aid for the ejectment of the offending matters. By the immediate response of the various organs, there is concentrated in this viscus an unusual degree of nervous power, to the abstraction of it from every other part of the system. The heart, thus deprived of its ordinary quantity of nervous energy, and feeling the want of that portion which has been determined to the emetic oppressed stomach, necessarily performs its functions in an enfeebled manner, and a corresponding en-

feebled systole and diastole is the result, as evinced by the paleness of the countenance, indicative of diminished action in the capillary vessels of the face, and as rendered more evident by an examination of the circulatory system, through the medium of a soft, feeble, or frequent pulse, &c. which facts we think unequivocally establish the existence of that *direct* sympathy between the stomach and heart, which we above termed *the gastro-cardiac sympathy.* And it is by the intervention of this *one direct sympathy*, that we account for all those phenomena which are presented to our observation under the term sympathies; numerous indeed, by virtue of that unlimited connexion which exists between the heart and every part of the animal machine. As there is no organ whose inmost recesses are not momentarily subjected to the vivifying influence of the contents of the heart and arteries, it will be apparent to the most casual observer, that in the exact ratio that we can controul the action of these, we shall produce corresponding changes in every portion of the system; and thus do we illustrate those various phenomena which have obtained the various appellations of gastro-cutaneous, gastro-cerebral, gastro-hepatic, and gastro-pulmonic sympathies, as also innumerable others, which might be multiplied *ad infinitum*—certainly to as many as there are parts in the animal machine. They might justly be enumerated from the most important organs to the *ultimate fibre* which enters into the most delicate structure. To enumerate the most conspicuous of these, will, we feel assured, be productive of giving liberal and salutary views in the exhibition of emetics, which cannot fail to render our practice more successful, and, at the same time, confirm the confidence which our *text books* repose in this valuable class of medicines.

In pursuing our inquiries relative to *indirect sympathy*, the first that presents itself to our consideration is that which exists between the stomach and brain, under the title of the gastro-cerebral sympathy. This connexion between these important organs is made apparent to our senses by the syncope which supervenes upon extreme nausea, dependant upon an enfeebled, or perhaps a *suspension* of the capillary circulation within the cerebral mass, and this again dependant and enfeebled action of the heart, enfeebled by an undue determination of nervous fluid to the emetic oppressed stomach. It ought here to be remarked that these sympathies are reciprocal, the stomach being as often affected by impressions made upon the brain and the nerves derived from thence; the infliction of a blow upon the cranium, certain impressions made upon the olfactory nerves by dis-

agreeable odours, the abstraction of blood, all exert an influence upon the stomach.

Ever to have an attentive eye to this sympathetic connexion cannot but conduce highly to our success, when called to encounter inflammation in this important organ, whether proceeding from disorganization of its substance or its delicate meninges, or whether the result of simple excitement dependant upon increased vascular action. To controul inordinate action in this important organ, the earliest resort should be made to the use of emetics, after a copious evacuation of the circulatory system by the lancet, thus maintaining the advantage derived from the use of this instrument without further debilitating the patient by copious and repeated draughts upon the vital fluid.

Of the existence of many other sympathies between the stomach and other organs, there exists most ample testimony. These have received appellations indicative of the various organs which they connect, as for instance, the *gastro-renal*, the *utero-gastric*, the *cysto-gastric*, &c. all evincing themselves under certain circumstances, such as the irritation dependant upon urinary calculi in the bladder or ureters, the uterine contents during the period of gestation, the accumulation of urine in the bladder, all of which exert an influence over the stomach, inducing all the symptoms of gastric irritation, varying from the slightest nausea to the fullest vomition.

After having thus pointed out the *universal sympathy* which exists between the stomach and every other part of the system, may we not ask what organ is diseased, in which symptoms of *preternatural action* are manifested, and emetics not imperiously demanded? If, as pathologists teach, *inflammation is seated in the capillary system of vessels*, then are emetics, by virtue of their peculiar sedative action upon these vessels, controlling both the velocity and quantity of the circulating mass within them, one of our most powerful antiphlogistic agents. The heart no sooner perceives that a portion of its ordinary nervous energy has been abstracted, than enfeebled systole supervenes. An enfeebled contraction of this organ necessarily involves the supposition of diminished action of the whole arterial system; those recesses which are most remote from the centre of the circulation first feel the absence of its ordinary stimulus, and diminished action in these parts, before preternaturally excited, is the consequence.

That such diminished action of the *capillary system* of the *internal* organs does take place, we infer from the phenomena presented to us by those which are *external*. The pale and shrivelled countenance,

dependant upon diminished action of the capillary vessels of the face, occurring synchronously, and even before the supervention of nausea, forcibly teaches us that an analogous condition must obtain throughout the system, in the internal as well as the external organs.

Of the sedative effects of emetics upon the capillary system, there exists other testimony than our own observations. Experimentalists have ascertained, that in the exact ratio of the emetic substance being urged upon the stomach, is the degree of the diminished action extended; retrograding from the capillary system to the next sized set of vessels, and again to those of a still larger diameter, until eventually in the smaller animals it has extended itself by this retrograde movement to the heart itself, whose action it has eventually extinguished.

Thus deprived of the vivifying influence of the blood and with it a certain portion of the vis nervea, which gives to the diseased organ a morbidly tonic condition, a universal relaxation pervades the system, eliciting the organs thus affected to pour out their locked up secretions.

Such then are the additional views, which ought to occupy the mind of the physician when prescribing emetic substances. In all diseases of associated action, it is to their effects upon those organs embraced in the term *secundæ viæ*, that we must look for success. In the *idiopathic pyrexia*, by virtue of their universal relaxant property, they become one of our chief agents in arresting the progress of this class of diseases. In fever, dependant upon inflammation, or some other irregularity of the capillary system of vessels, which may be said to constitute the parenchyma of an organ; the exhibition of an emetic stands second only to the use of the lancet. As there cannot exist great local determination, without a corresponding accumulation of nervous energy in a part, the beneficial effect of an emetic will be strikingly observable in the fact, that having diminished the quantity of vital fluid circulating within the part, an abstraction of a portion of the morbidly accumulated *vis nervea* is the result, and relief from local pain is a further consequence.

When thus dwelling upon the *secondary action* of emetics, we would not wish to have it understood that we in any degree wish to invalidate the confidence which is justly reposed in this valuable class of medicines, even when prescribed with a view to their *primary action* upon the system, viz. for the ejectment of accumulated ingestion or vitiated secretions, preparatory to the exhibition of other medicines, designed to operate upon the alimentary canal. Such preparation being sometimes absolutely necessary, owing to a preternatural irri-

tability of the stomach. The advantages of relieving a stomach thus oppressed, are too evident to require comment here. None feel the advantages to be derived from the *primary action* of emetics upon the alimentary canal and collatitious viscera, more than ourselves.

As cathartic agents, this class of medicines present urgent claims upon the attention of the profession. They exert a twofold operation upon the system. Independent of their stimulant operation upon the alimentary tube, producing copious discharges of feculent matter, highly coloured with the hepatic secretion, first *elicited* by the universal relaxation of the system, and after *extorted* from the liver by the combined pressure of the diaphragm and abdominal muscles, during the act of vomiting. A portion of this bile, escaping into the duodenum, and thus being out of the reach of the inverted action of the stomach, passes through the whole tract of the alimentary canal producing its peculiar cathartic action. Independent of this highly remedial operation upon the alimentary canal and collatitious viscera, antimonials managed as cathartics, presents other and higher claims to the consideration of the profession, which ought to give them a decided preference when prescribed in febrile diseases. We again allude to their *secondary operation* upon the system, to wit, their *controul of the action of the heart and arteries;* this while it effects the primary object of alvine evacuation, subdues inordinate action in every part; whether it be in the encephalon, as evinced by head-ache, intolerance of light, or in the suffused and muddy appearance of the eyes; whether in the pulmonary organs, as declared by cough, stricture, or limited respiration; whether the inflammation be seated in the parenchyma of the liver or in the serous tissues investing it; in short, by virtue of diminished cardiac, arterial, and consequent venous action, in whatever part of the system, however remote, or inordinate it may exist, it cannot fail immediately to experience the sedative effects of antimonial emetics, administered with the double view of producing their emetic and cathartic operation.

We shall now cursorily glance at one or two diseases, in which emetics may be administered with great advantage, but more especially with a view to their *modus medendi* in these complaints.

If, as we believe, dropsy be dependant more frequently upon *inordinate capillary action*, resulting in the deposit of serous secretion, rather than upon diminished action of the absorbent system of vessels, then would our views of controlling the circulation within these vessels, through the medium of the gastro-cardiac sympathy, prove most applicable. The exhibition of emetics in this disease, will, however, much depend upon the condition of the pulse. As desirous as we

are for a more general use of antimonials, upon more extensive views, we cannot subscribe to the position that, as they *promote absorption*, that they are therefore appropriate in all forms of this complaint. It is only in those cases in which there is observable an acceleration of pulse, not amounting to fever, that we deem them admissible. In a contrary condition of the arterial system, as when the disease supervenes upon old and worn out constitutions, as indicated by a feeble and frequent pulse, it is evident that an emetic cannot otherwise than depress a system, already requiring artificial support. It is not necessary that this excitement be manifested by the pulse. *Inordinate capillary arterial action and consequent serous effusion* may exist without involving the circulation in the larger system of vessels.

These opinions have been adopted, because we think that observation has taught us that the absorption and discharge of the fluid collected in the peritoneal cavity, is never effected until such time as the hydragogue medicines resorted to, have, by their evacuant operation, subdued that *excited* condition of the pulse, upon which the disease, in a majority of cases, essentially depends. By the profuse serous evacuations, and a consequent diminution of the circulating mass within the *exhalent arteries* of the intestines, a revulsion is produced, and the tide of the circulation is reversed. Instead of a preternatural afflux to the capillaries of the peritoneum, it now flows to the capillaries of the mucous membrane of the intestines, which in obedience to the stimulant operation of medicine, pour out their serous contents, thus substituting an artificial excitement of the capillaries of a mucous, for the more dangerous inflammatory condition of those of a serous membrane. Such, do we believe, is the *modus medendi* of ordinary hydragogues. To their evacuant or depleting powers, do we attribute the beneficial results consequent upon their exhibition.

If the above reasoning be correct, we feel confident that an antimonial cathartic would be decidedly preferable to all other cathartics, by virtue of its twofold operation upon the system. It promises to answer the double indication of producing revulsion of the circulation, by the profuse serous evacuations which are consequent to its exhibition, as also to controul the circulation within the peritoneal capillaries by virtue of its *sedative* action upon the *heart* and *arteries*, thus obviating that condition in this system of vessels, upon which we have supposed the serous deposit to depend. To this artificial inequilibrium of the circulation of the arterial and absorbent systems, brought about by the diminished action of the former, do we refer the *apparent direct* stimulant effects of the latter. Emetics do not

promote absorption, by directly stimulating this system of vessels, but rather accomplish the removal of effused fluid, by *arresting* its secretion—by controlling the circulation within the diseased capillaries of the parts affected.

An investigation into the pathology of dysentery, in the highest degree corroborates the use of emetics; all the symptoms declaring the existence of *intestinal inflammation*, and *consequent spasmodic constriction.* Of the various theories which have been promulgated as to the pathology of this disease, each may be made to countenance the above pathological exposition. Whatever theory, therefore, we may adopt, we can substantiate the utility and *modus medendi* of emetics. If with SYDENHAM, we believe it to be the result of checked cutaneous transpiration; if with CŒLIUS AURELIANUS, AKENSIDE, STOLL and RICHTER, we admit it to be a rheumatic affection of the digestive tube; if with CULLEN, we believe it to be a catarrh of the intestines; if we believe it to consist in spasm of the colon, the *colonitis* of BALLINGATE, whichever of these opinions we adopt, the principal indications are, *to relieve spasmodic constriction, to determine to the surface, and to take off local inflammation by controlling the capillary circulation.* In accomplishing these indications, a knowledge of the *secondary operation* of emetics becomes of the highest importance. Of these various theories, we believe that which makes the disease to consist in *inflammation*, and *consequent spasm* of the intestinal tube, to be most in accordance with the truth. To obviate this morbid condition of the intestines, the relaxant properties of emetics promise much. Their *sedative action* upon the capillary system of vessels, controlling the circulation within the inflamed parts and the relaxation which must always be a concomitant of the abstraction of blood from the capillaries of the inflamed part, conspire to give them claims to the utmost confidence. Spasm must be considered, in a large majority of cases, as dependant upon an accumulation of nervous energy in a part. In whatever part an accumulation of the vital fluid occurs, a preternatural accumulation of the *vis nervea* is the natural censequence. To take off this preternatural determination of the circulatory and nervous fluids, by creating an artificial *centre of irritation*, is the principal object in exhibiting an emetic in dysentery. With their *primary action*, viz. the ejectment of contents of the stomach, we have little to do; their *modus medendi* is to be sought for in their *sedative action upon the capillary system of vessels* induced by the determination of the circulatory and nervous fluids to the emetic oppressed stomach.

From what has already been said, we feel that we may have been

anticipated in extending their use to all the remaining phlegmasiæ. In all inflammations of the serous membranes they exert a most remedial influence, by virtue of their sedative action upon the extreme vessels, and the more delicate the system of vessels, the greater power they appear to exert. Their highly remedial influence in ophthalmia and erysipelas, in which diseases the vessels of the most delicate tissues of the system are affected, viz. the conjunctiva and the skin, are corroborative of the assertion.

We are not ignorant that erysipelas has been thought by the eminent Desault to be dependant upon derangement of the biliary system, and its cure essentially connected with the copious evacuations of bile, incident to the exhibition of an emetic. We differ, in toto, from this justly celebrated authority. We should be inclined to refer the preternatural secretion and consequent vitiation of the hepatic secretion, to some morbid condition of the *capillary* vessels of the liver and general system, rather than view the vitiated secretion as the *cause* of the primary derangement, and it is to the peculiar action which emetics exerts upon this system of minute vessels, that we are to look for the solution of their *modus medendi.* If the morbid action consists in spasm and inflammation of these vessels, then we should point to the use of emetics as the most efficient means of producing universal relaxation, and consequent diminution of arterial capillary action.

Enough has been said to induce the practitioner to extend the use of emetics to all the remaining phlegmasiæ. In enteritis, peritonitis, cynanche trachealis, cynanche laryngea, and cynanche maligna, the most formidable of all anginose diseases, the use of emetics are indispensable. In all inflammations affecting the denser membranes, they become the most powerful auxiliaries of the lancet, but it is principally in the latter disease that their remedial agency is most conspicuous. The rapidity with which the inflammation extends itself, and its proneness to pass into a state of mortification, imperiously demands that we resort to the use of emetics, whose action seems particularly directed against the inflammatory condition of the capillaries of the mucous membrane lining the throat, whose excessive action and consequent mortification constitutes the danger of this truly formidable disease.

That a prompt resort, and a repeated use of the lancet will accomplish most of the indications for which we have recommended the use of emetics, is a fact which would seem to invalidate the importance which we have endeavoured to attach to this class of medicines in treating the phlegmasia, if not otherwise explained. That the

lancet is a direct sedative to the capillary system of vessels, by emptying the larger vessels of their contents, and thus creating a determination to these, which is effected at the *expense* of the capillary system, is generally admitted; and it would appear that a repetition of its use would effect the very indication for which we prescribe our emetic, viz. to controul the circulation within the capillary system, which, if it does not constitute, certainly is favourable to the existence of inflammation. We do not wish for a moment to countenance the idea that we reject the use of the lancet. We rather resort to emetics as its most powerful auxiliary, and as instrumental in *protracting* that condition of the capillary circulation induced by the use of the lancet, without effecting an excessive expenditure of the vital fluid, which favours serous effusion, an evil which is also to be avoided. Though the lancet produces a change in the circulation, in which the tide sets from the seat of inflammation, viz. the extreme vessels to those of larger diameter, the system soon establishes an equilibrium, and the seat of irritation again becomes a point to which the circulation is attracted, until a repetition of its use again produces a revulsion. To avoid this excessive expenditure of the vital fluid, we prescribe emetics, which effectually controul without diminishing the quantity of the circulating mass, already so much reduced as to render its further abstraction liable to be attended with dangerous consequences.

With this exposition of our views of the pathology of dropsy, we pass on to say a few words to reconcile the great discrepancy which pervades the profession relative to the use of emetics in apoplexy. The weight of authority, we are well aware, is against their use, and the acknowledged pathology of the disease, which makes it to consist in a congested state of the cerebral vessels, would appear to give additional weight to the objecting party. A reference, however, to the phenomena which invariably obtain previous to the act of emesis, will in a great degree, invalidate the reasonings of those who oppose their use. The pale and shrivelled countenance, the frequent, feeble, and irregular pulse, the diminished capillary circulation, indicated by the paleness of the general surface, all tend to prove the fallacy of an assertion, based upon high authority, viz. that emetics "have a direct tendency to increase the fulness of these vessels, (cerebral,) by increasing the arterial and retarding the venous circulation." Now we rather think that it is susceptible of proof, that directly the reverse of this obtains. Previous to the act of vomition, there always exists a diminished action in the vessels of these systems by which both the velocity and quantity of the circulating mass is materially

diminished in the cerebral vessels. To the *sedative* action of an emetic upon the heart and arteries and other circulatory organs, are we to look for the fact which can alone reconcile the discrepancy of opinion relative to the use of emetics in apoplexy. By virtue of the sympathy which exists between the stomach and heart, resulting in a diminished action of the latter, the afflux of blood to the head, is so much diminished as in a great measure to preclude the possibility of danger during the short period of emesis by preventing the free return of the circulatory mass through the venous channels. It is, then, by a reference to the sedative effects of emetics, previously to the act of vomiting, thereby controlling the cerebral circulation, that we think ourselves justified in recommending the exhibition of this class of medicines as legitimate resources of the art in treating apoplexy.

A few words upon the diaphoretic properties of antimonials we hope will not be deemed superfluous. In accomplishing this important indication, antimonials are singularly efficacious. By the universal relaxation which pervades the system when under nausea, relieving the morbidly constricted vessels of the surface, thus *eliciting* the natural cutaneous transpiration; by the moisture and even profuse perspiration which bedews the forehead, and even whole body, of the patient, when in the act of vomiting, whose natural secretions have just before been locked up by febrile action; by the softness and coolness of the skin consequent to these attempts at vomiting; by these and other considerations, we should be disposed to give antimonials a decided preference, as diaphoretics, over that class of stimulant medicines, which, by increasing the circulation, *extorts* perspiration from the constricted capillaries of the surface. In the exhibition of the former, the *spasm* of these vessels is first subdued by the relaxation incident to nausea, before the attempt at vomiting, by increasing the circulation, force out cutaneous transpiration, thus removing all those fears which might justly be entertained when prescribing those stimulant medicines which break up spasm, without previously relieving the morbidly tonic condition of the cutaneous capillary system.

As expectorants, the value of antimonial emetics are too generally acknowledged to require comment here, we shall, therefore, content ourselves with saying a few words upon their *modus medendi.*

Directly stimulant to the stomach, and thus concentrating nervous energy in this viscus, an emetic becomes indirectly a powerful sedative to the rest of the system. By the intervention of the diminished action of the heart, a corresponding change is produced in the capillaries, ramifying upon the mucous membrane of the bronchiæ and parenchyma of the lungs. A diminished action in these vessels is an ap-

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proximation to their natural and healthy condition, and mucous secretion is the result in a system of vessels whose action before was suspended or performed in a limited manner, owing to capillary spasm. To this *indirect sedative* power of emetics must be attributed the protean action of this class of medicines. As sialagogues, by relaxing the salivary glands to that degree as to incapacitate them for the retention of their peculiar fluids. As emmenagogues, by relaxing the uterine capillaries, the morbidly tonic condition of which may frequently be regarded as the cause of the non-appearance of their peculiar secretion. As narcotics, by controlling inordinate arterial action, which favours the accumulation of nervous energy in important organs, and especially in the brain, upon which that distress and anxiety peculiar to intense febrile action is dependant. As the system has approximated the natural and healthy condition, by the equalizing action of an emetic, or rather by its power of determining nervous energy from the oppressed organ to the stomach, we have witnessed corresponding changes in the feelings of the patient, varying from mental and corporeal tranquillity to profound natural sleep.

It now only remains for us to say something upon the mode of administering emetics, by which the greatest advantages are to be gained; the ordinary manner of administering them being deficient in that principle of gentle, repeated, and protracted emesis, upon which success must chiefly depend. We believe that it will be in unison with the facts, when we assert that the usual mode of administering an emetic at the present day, is by exhibiting four or five grains, in portions of three-fourths of a grain to a grain, at intervals of from ten to fifteen minutes, until such time as the act of vomiting be induced, aiding and accelerating its operation by copious draughts of tepid water, or a weak infusion of chamomile flowers. By the solvent powers of the former, and the emetic qualities of the latter, every portion of the original emetic substance is ejected from the stomach; thus interrupting its cathartic operation, to induce which, it is necessary that a portion of the emetic should pass the pyloric orifice of the stomach, and be introduced into the alimentary canal. Nor is the loss of its cathartic operation the only objection which can be urged against this mode of administering emetics. Administered as above, their effects are too *evanescent* to derive the advantages which ought to result from a more judicious administration of them; the system not being under their effects longer than from three-fourths of an hour to an hour and a half. Even when resorted to for this short period, no one has failed to observe their remedial effects; a softer pulse, the reëstablishment of the cutaneous transpiration, and a more

tranquil condition of the patient, are the usual results of their administration. But, as we observed, when thus administered, the beneficial effects are evanescent, the speedy withdrawal of the emetic, producing these changes, necessarily favours the reëstablishment of febrile action. We know of no therapeutic principle more allied to truth, than that upon which we have always practiced in diseases of associated action, viz. that it is by *repeated impressions* upon the circulatory system through the intervention of the *gastro-cardiac* sympathy, that we must hope to break through the chain of morbid associations, constituting febrile diseases.

Gutta cavat lapidem, non vi, sed sæpe cadendo.

It is by a steady perseverance in the use of emetics given in minute doses of half a grain at intervals of half an hour, that the system will be kept so long under their sedative effects, as most effectually to trammel the disease, and thus offer an obstacle to its further progress by association. By the use of emetics, the system is brought into a condition directly opposite to that of febrile action; and it is only by protracting this state of things, viz. by keeping up *continued* but *moderate pressure* upon the *arterial system* by the sedative effects of an emetic, that we can dissolve the chain of morbid actions. An attentive observation of the phenomena which develope themselves, while the system is under the effect of an emetic, will convince us of the necessity of protracting the emetic action. In the exhibition, no very sensible effects are produced by the first three or four half grains. A well-directed observation would, however, detect certain changes which would escape the eye of one not fully skilled in the exhibition of emetics. The pulse assumes a softer and more frequent action, there is less cerebral excitability, and general corporeal composure; nausea now supervenes, and with it universal relaxation, succeeded by attempts at vomiting, which accomplished, a universal relaxation pervades the cutaneous capillaries, and a corresponding quantity of perspirable fluid is the result. This approximation to the healthy standard is of short duration; as the effects of the emetic pass off, febrile action again reëstablishes itself, until the lapse of the half hour brings with it another half grain, which never fails to produce even greater relief, each interval of febrile action being of greater duration, until the disease thus checked from time to time, by the obstacles which it encounters in the *sedative action* of the emetic, is so trammelled in its progress, as eventually to be forced to yield. When we contrast this practice with that which now obtains, we think its advantages must be apparent to the most casual observation. In protracting the emetic action by the exhibition of minute doses at

proper intervals, we interpose our second dose just at a time when all the advantages derived from the emetic substances are about to wear off, and febrile action again begins to establish itself; at this critical moment we place our *veto* upon its further progress by a repetition of the dose. In the ordinary mode of administering emetics, all the advantages gained by their exhibition are lost by a discontinuance of them. Though the disease be partially subdued in the absence of the emetic, it gains sufficient strength again to become formidable. Though a victory is gained, all the advantages which might result from a pursuit and total rout of the enemy are slothfully abandoned.

To some of the profession, the practice of protracting the emetic action may be fraught with many and great evils, as tending to induce an irritable condition of the stomach, not a little to be dreaded. Such fears may be calmed by the fact, that when administered in the above small doses, we have never known them to have such an effect. This will be the more easily credible, when we assert that it is never necessary to administer more than from four to six grains before the *criterion* which induces its discontinuance supervenes. One or two copious alvine evacuations have always been our signal for its discontinuance. Such then are the additional views based upon the *secondary action of emetics* which we proposed to give, and upon which has been based a practice singularly successful in diseases of associated action.

New York, August, 1831.

ART. X. *Report of the Committee of the Board of Health of Charleston, respecting the Prevalence of Varioloid and Small-pox in that city during the year* 1829.

THE Committee of the Board of Health, appointed to report upon the prevalence of varioloid and small-pox during the last year, and for other purposes, respectfully *Report*,

That, to accomplish the duties assigned them satisfactorily, they sent the following Circular to the Physicians of Charleston:—

Charleston, Nov. 25th, 1830.

DEAR SIR,

Having been appointed a Committee of the Board of Health, to ascertain how far the varioloid and small-pox have prevailed, &c. &c. we respectfully, (in order to accomplish satisfactorily the intentions of the Board,) present for

your consideration the following interrogations, and earnestly request a reply as soon as possible.

Query 1*st.* Have you seen any cases of small-pox, and how many during the last year?

2*d.* Have all the symptoms and stages of small-pox been exhibited in any of your patients who have been vaccinated?

3*d.* Have you had any cases of varioloid, and how many?

4*th.* How do you distinguish varioloid from small-pox, and how from varicella or chicken-pox?

5*th.* Have you ever known varioloid to occur among those who had the natural, or been inoculated with small-pox, or have you ever seen varioloid in those persons who have been protected neither by inoculation from small-pox or vaccine?

6*th.* Have any of your patients with varioloid at any time of your practice, (stating the length of time you have practised,) died?

7*th.* Do you regard varioloid as a distinct disease, or as modified small-pox?

8*th.* Has your confidence in the protective power of the vaccine been lessened?

9*th.* Do you think that the careless manner in which persons are vaccinated by those who are not physicians, and are incapable of judging, ought to be considered a great evil, and a source calculated to lessen confidence in a valuable preventive of small-pox?

10*th.* During your experience have you not found it a common custom for persons not physicians to vaccinate their domestics and families, to save the expense of getting a physician?

11*th.* Do you not think that taking so much matter, as is usually the custom, from a pustule when there is only one, lessens the chance of a constitutional impression being made; and that it would be better to leave one pustule uninjured, to go through all the stages?

12*th.* Do you think at any period of life the vaccine would become diminished in its power on the system to resist the influence of small-pox?

13*th.* How do you distinguish a spurious from a genuine vaccine pustule?

With due consideration, we are, respectfully,

THOMAS Y. SIMONS, M. D. *Chairman.*
J. MOTTE CAMPBELL, M. D.
GEORGE LOGAN, M. D.
} *Committee of Board of Health.*

Your Committee was prevented from giving an earlier report, in consequence of the medical gentlemen not having before sent answers to the above circular. They, however, now offer the following to the consideration of the Board. The Committee will first give a concise history of the small-pox epidemic; and secondly, offer the opinions which are entertained in Europe and America upon the value of vaccine as a means of controlling the ravages of small-pox.

In the performance of this important duty, they will be as concise as possible, avoiding the adoption of any speculative opinions, and

presenting only such views as seem derivable from actual experience and observation.

In February, 1830, the small-pox and varioloid first made their appearance; for a year or two previous, scarlatina, measles, and cynanche maligna, had prevailed, and for several years the small-pox had been at the Lazaretto, being imported cases. During the summer season, the small-pox and variola seemed to have disappeared, but, on the approach of winter, they again made their appearance.

The small-pox has assumed the various forms of confluent and distinct, and has been extremely severe in its type, and frequently fatal. The number of deaths, according to the records of the Board of Health, which does not include Charleston Neck, has been fifty-three.

Sometimes this disease, both in the confluent and distinct form, has gone through all the regular stadia with the pustules fully and properly developed, which your Committee deem unnecessary to describe. In others, however, the eruptions have assumed the appearance of measles; have, in the progress to filling and maturation, become flattened, being imperfectly filled with purulent matter, and, in their termination, they have dried up, forming no regular scabs, and showing beneath an inflamed, and in some instances a gangrenous aspect. In proportion with the imperfect development of the pustules, have there been great determination to, and inflammation of, the mucous tissues of the thorax and alimentary canal, and the tissues of the brain. This form has generally proved fatal. The varioloid, as it has been termed, was ushered in with great pain in the head and spine, accompanied frequently with delirium and gastro-intestinal irritation: on the fourth day an eruption appeared on the cutaneous surface, when the symptoms just described began to subside. This eruption has assumed a very irregular appearance—the papular, vesicular, and pustular, all in many cases existing at the same time; and on the sixth day after their appearance, in place of maturating with fever as in small-pox, they have desiccated, leaving red splotches, in a few instances depressions, but more frequently prominences. There have been some modifications of this—the disease partaking partly of the character just described, and partly of small-pox. Sometimes successive crops of eruptions have appeared in the course of the disease: varicella has likewise prevailed cotemporaneously with small-pox and varioloid, but the fever has been, (previous to the eruption,) very mild, short, and irregular in its duration, and afterwards only vesicles have appeared, which were of a few days continuance. Your Committee, however, are persuaded that many cases

of varicella have been confounded with varioloid. Regarding the distinct characteristics of these two diseases, there has been great discrepancy of opinion among medical gentlemen here, as well as in other portions of the world. Your Committee will decline, on a subject so unsettled in medical opinion, attempting to make any other diagnostic of variola, varioloid, or varicella, than the description just given, remarking,

1st. That varioloid is regarded by some physicians as small-pox, modified by vaccine and inoculation of small-pox.

2d. That a few physicians consider it as a distinct disease.

3d. As secondary small-pox, similar to the diseases which medical writers, antecedent to the introduction of vaccine, described as horn-pock, nurses-pock, siliquose-pock, sheep-pock, bladder-pock, &c.

4th. It has been suggested, that only varicella and small-pox have prevailed, there being an intimate relation between these two diseases, and that which has been termed varioloid is varicella, modified and increased in virulence by the epidemic influence of small-pox, as remittent fevers are aggravated in their type during the prevalence of epidemic stranger's fever.

From the answers which have been received to the circular, it appears that varioloid occurred among the vaccinated, the variolated, (or those who have been inoculated with small-pox;) among a few who have had small-pox naturally, two of whom have died; and in a few instances in those who have been protected neither by natural or inoculated small-pox, or vaccination, similar phenomena have been noticed in the small-pox epidemics which have appeared elsewhere. Your Committee can give no adequate idea of the number of cases of small-pox or varioloid which have occurred, not having received answers from all the practitioners of our city; and of those who did return answers, but few kept a register of their cases; the proportion, therefore, of those who have died, with those who have been sick, cannot be ascertained. Your Committee, however, are satisfied that the proportion of deaths from varioloid, in comparison with the number that have been sick, has been small. According to the register of the Board of Health, there have been but eight deaths from varioloid. Some of these may justly be ascribed to the severity of our winter, producing violent concomitant catarrhal affections; and some cases which have been called varioloid, there is good reason to believe were small-pox.

The second point of consideration which your committee will bring to your view, are the opinions which are entertained in Europe and America of the value of vaccine as a means of controlling the

ravages of small-pox. And this is the more imperatively called for, from the distrust which has been awakened in the efficacy of vaccine, since the prevalence of varioloid. It has been already stated that varioloid has attacked those who have been inoculated with small-pox, those who have had the small-pox naturally, those who have been vaccinated, and those who have been altogether unprotected. These facts have been observed, not only in Charleston, but in other portions of the United States, and in different countries of Europe, where varioloid and small-pox have prevailed. Now it is true that the varioloid occurs more frequently among the vaccinated. But it must be recollected that by far the greater proportion of individuals in Europe and America are protected by vaccine, and hence, by parity of reasoning, where varioloid does prevail, the greater proportion of cases must be among the vaccinated. It may likewise be called to mind that antecedent to vaccination secondary small-pox was of frequent occurrence, and has been fully and satisfactorily described by the medical writers of those days, under various appellations, as nurses-pock, sheep-pock, siliquose-pock, &c. &c. &c.

With these prefatory remarks, your committee will offer you opinions derivable from the highest authorities, premising that the medical periodicals abound with confirmatory testimonials of the opinions which are now presented.

In 1805, in consequence of varioloid occurring after vaccination, and the distrust which was awakened in many as to its real value, the College of Physicians of London were instructed to investigate the subject and report. The following extracts from that report are offered:—

"Deeply impressed," says that distinguished body, "with the importance of an inquiry which equally involves the lives of individuals, and the public prosperity, they have made every exertion to investigate the subject fully and impartially. In aid of the knowledge and experience of the members of their own body, they have applied, separately to each of the licentiates of the college; they have corresponded with the Colleges of Physicians of Dublin and Edinburgh, with the Colleges of Surgeons of London, Edinburgh, and Dublin; they have called upon the societies established for vaccination for an account of their practice, to what extent it has been carried on, and what has been the result of their experience, and they have, by public notice, invited individuals to contribute whatever information they had severally collected. They have, in consequence, been furnished with a mass of evidence, communicated with the greatest readiness and candour, which enables them to speak with confidence on all the principal points referred to them."

After referring to the general use of, and confidence in, vaccination, the college goes on to state:—

"The security derived from vaccination against the small-pox, if not absolutely perfect, is as nearly so as can perhaps, be expected from any human discovery; for against several hundred thousand cases with the results of which the college have been made acquainted, the number of alleged failures has been surprisingly small. So much so as to form no reasonable objection to the general adoption of vaccination; for it appears that there are not nearly so many failures in a given number of vaccinated persons, as there are deaths in an equal number of persons inoculated for the small-pox. Nothing can more clearly demonstrate the superiority of vaccination over the inoculation of the small-pox, than this consideration; and it is a most important fact, which has been confirmed in the course of this inquiry, that in almost every case where the small-pox has succeeded vaccination, whether by inoculation or by casual infection, the disease has varied much from its ordinary course; it has neither been the same in violence nor in the duration of its symptoms, but has, with very few exceptions, been remarkably mild—as if the small-pox had been deprived, by the previous vaccination, of all its usual malignity."

This strong confirmation of the value of vaccine, emanating from a learned body, deriving its sources of information from all the most learned medical bodies of Great Britain and Ireland, has been fully sustained by the subsequent experience and observations of physicians there, on the Continent of Europe, and in the United States of America. As this report is intended not for the information of medical gentlemen, whose reading upon this important topic it is presumed, has made them fully acquainted with medical opinion throughout the world, but for the citizens, whose confidence in vaccine has been in some degree shaken, your committee must ask indulgence when they offer accumulated testimony confirmatory of the opinion of the College of Physicians of London, during the last twenty-five years. Dr. THOMSON, in an able communication to Sir J. M'GREGOR, the director-general of the medical department of Great Britain, &c. relative to small-pox, varioloid, and varicella, as it prevailed in Scotland, derivable from his own experience and observation, and of some of the most respectable physicians of that country, makes the following remarks:—

"It has been impossible to see the general mildness of the varioloid epidemic in those who had undergone the process of vaccination, and the severity, malignity, and fatality of the same disease in the vaccinated, and not to be convinced of the great and salutary powers of cow-pock in modifying small-pox, in those who were afterwards affected with this disease. Proofs cannot be imagined more convincing and satisfactory of the incalculable benefits bestowed upon mankind by its discoverer, than those I have had the pleasure of witnessing. It has been very agreeable, also, to observe that the terrors at first excited by the occurrence of the varioloid epidemic in the families of those who had undergone cow-pock inoculation, have gradually given way in the progress of the disease; and that the comparison of small-pox in their modified forms has

often forced a conviction of the advantages of cow-pock inoculation upon the minds even of the most ignorant and prejudiced, and induced them to seek protection for themselves and their offspring in a practice which they had formerly neglected or despised."

A committee of the "Academie Royale," of Paris, make in the conclusion of their report, the following remarks:—

"It is evident that when the utmost concessions are made, when all the causes of small-pox after vaccination which have been reported are considered authentic, it would be sufficient to compare these rare occurrences with the innumerable cases of the disease in those who have not been vaccinated; and also with the immense number of those who have undergone the process, and been exposed to contagion with impunity, in order to be convinced that vaccine inoculation is one of the most beautiful and useful discoveries that has ever been made, and that this invaluable antidote still preserves its virtues."

In an interesting history of the variolous and varioloid epidemic, which prevailed in Philadelphia in 1823 and 1824, by Drs. Mitchell and Bell, the following important statement is made, of two hundred and forty-eight cases of small-pox and varioloid, which came under their notice—one hundred and fifty-five were unprotected, of whom eighty-five died; sixty-four vaccinated, of whom one died; nine inoculated, of whom three died; seven previous small-pox, of whom three died; thirteen unknown—no deaths. Now, here is clearly shown the ravages which have occurred to the unprotected, there being eighty-five deaths, while of the vaccinated only one; of the inoculated and previous small-pox, each three, proving that the vaccine made a milder form than any other. If there were a greater proportion of vaccinated than those who were inoculated, or had previous small-pox, who had varioloid, it must be remembered that the proportion of vaccinated to the proportion of inoculated exposed to varioloid, must have been as at least four to one; add to this the danger and fatality resulting from inoculation, and the mildness and innocency of vaccine, and its value is strikingly illustrated. In the concluding observations of a Committee of the Philadelphia Society, appointed to report on the variolous and varioloid disease, which prevailed in Philadelphia, in 1827, the following language is used.

"Thus we may, without the least want of candour, come to the conclusion, that only one death from small-pox after vaccination had occurred during the year 1827, among eighty thousand vaccinated persons, and during the prevalence of a most malignant and mortal small-pox, while several individuals have lost their lives from small-pox after they had already gone once through the disease. It appears then clearly that vaccination ought to lose nothing of the public confidence, and as a protection from the fatal effects of genuine small-pox, it may safely be asserted, it is in every sense to be preferred to inoculation."

In this latter opinion, your Committee most fully concur; and they are authorized to state, that such is the opinion of almost every physician in our city. It will now be proper to offer the opinions which have been advanced by Committees appointed by the Medical Society of South Carolina, and which were adopted and approved.

A Committee, in an interesting report upon the epidemic small-pox of 1817, as it existed in Charleston, state

"That their confidence in the efficacy of the vaccine as a preventive of small-pox continues undiminished, and they think it the only means by which the ravages of that disease can be effectually put a stop to. Proofs of its efficacy are continually presented to our view. They surround us on all sides. Did it not destroy the susceptibility to small-pox, every house would become an hospital. Scarcely would there be a family but would have to mourn the loss of some favourite member by its destructive influence; indeed, what must have been the situation of our city for many months past, where so many thousands have relied on it exclusively."

Again, the Committee on the epidemic small-pox of 1824, declare that "vaccine inoculation, when properly and judiciously performed, still maintains the same confidence which has hitherto been reposed in it, as a protection against small-pox."

Having, from accumulated testimony, which your Committee collected from the periodical and other medical works which have been published since the introduction of vaccine, (and among which they have seen none that does not admit it as the safest and most valuable means of checking the ravages of small-pox,) presented to your notice evidences from the highest authority of its value; they will consider some of the questions which were proposed in the circular, in the first part of this report, some of them having been already noticed.

1*st*, *Question* 8*th*. Has your confidence in the protective power of the vaccine been lessened? It has been answered by all, that although vaccine cannot be regarded as protecting from varioloid, it does, most generally, from small-pox after vaccination, and not one death; and in these few cases the vaccine was supposed to be genuine, only from the patient's having been vaccinated by physicians, and not from a personal knowledge of the cases, and that it is decidedly the most salutary means of checking the ravages of small-pox.

Q. 9*th*. Do you think that the careless manner in which persons are vaccinated by those who are not physicians, and are incapable of judging, ought to be considered a great evil and a source calculated to lessen confidence in a valuable preventive of small-pox?

To this, every physician from whom the Committee have had information concurs. They further state, to this cause may justly be ascribed a number of the cases of varioloid and small-pox, which

occur after vaccination, and that it has tended materially to impair the confidence in vaccine.

Q. 10*th.* During your experience, have you not found it a common custom for persons, not physicians, to vaccinate their domestics and families, to save the expense of getting a physician? It has been responded, that few heads of families employ a physician to vaccinate their servants, and many even vaccinate their children.

Q. 11*th.* Do you not think that taking so much matter as is usually the custom, from a pustule when there is only one, lessons the chance of a constitutional impression being made; and that it would be better to leave one pustule uninjured than to go through all the stages?

It is generally believed, that taking too much matter from one pustule might prevent its full and proper development. That it would be better to make two or three incisions on one arm, and when there is only one pustule, to take as little as possible from it as a matter of prudence—the fact of its injurious tendency being certainly and positively ascertained.

Q. 12*th.* Do you think at any period of life the vaccine would become diminished in its power on the system, to resist the influence of small-pox?

Considerable discrepancy of opinion exists among the physicians of Charleston, as well as in other portions of the United States, and in Europe, upon this subject. It must, at present, be considered as only speculative, sufficient data not having been obtained, by which we could in any manner come to a positive conclusion.

It is generally recommended to re-vaccinate whenever small-pox epidemic occurs, as a matter of security; for the second vaccination will prove whether the first was efficacious or not. For if the first vaccination be efficacious, the second, like varioloid, will run through all its stages and desiccate, and not maturate on the sixth day after the eruption.

Q. 13*th.* How do you distinguish a spurious from a genuine vaccine pustule?

The only answer to this, which the committee can make, is to describe what constitutes genuine vaccine, and whatever differs materially from this, may be considered as spurious. On the third day after the introduction of the vaccine virus, a red cone-shaped pimple is observed—from the fourth to the sixth, seventh, and eighth days, a transparent, limpid fluid collects, and an areola of inflammation appears around the pustule. From the eighth to the fourteenth the fluid becomes turbid and of a purulent nature—the scab forms in the

centre of the pustule—the circular inflammation is increased and accompanied with fever. From the fourth to the sixteenth, eighteenth, and twentieth days, the scab is completely formed and drops off, leaving a scar having many depressions of a cellular appearance.

It must be remarked, that the stadia in the development of a vaccine pustule are lengthened or diminished in some degree by temperature, being lengthened by cold and lessened by heat. The vaccine virus should be used when it is perfectly limpid and transparent.

Such are the testimonials which your committee have been enabled to bring to your view. They have not given the individual opinions of the medical gentlemen who politely sent answers to the circular, as they would occupy too much space; but they believe they have fairly represented their opinions.

It will thus be seen, from the according testimony of the most scientific and observing physicians in Europe and America, that vaccine has been regarded as one of the greatest blessings conferred upon the human race.

If we look for perfection in any thing, we will be grievously mistaken; but it would be unwise and unphilosophical, because a discovery could not accomplish all that we could wish, that it should be discarded.

The correct method of ascertaining the value of any discovery, is to compare it with others, and if worse, to reject, if better, to adopt. Now your committee maintain, that the evidences which have been brought to your view, prove beyond all matter of controversy, that the introduction of vaccine, although it has not extirpated small-pox, has disarmed it of most of its terrors. Let us observe how many human beings throughout the world are protected alone by vaccine from small-pox, and it becomes a matter of wonder that so many escape that Protean disorder, and of those who do not escape, how few suffer, when it is proved in the unprotected to be most virulent in its form, and most fatal in its consequences. But when we come to consider the many abuses to which vaccination has been exposed, from the number of individuals who have vaccinated, who are incapable of judging what is genuine vaccine, and from the carelessness oftentimes of physicians in not accurately observing its different developments, our confidence in its salutary influence becomes greatly increased.

Before concluding, your committee, by way of recapitulation, would remark—

1st. That since the introduction of vaccine, small-pox has been much less frequent, and the number of deaths from it greatly diminished.

2d. That the inoculated with small-pox, and the vaccinated, have the varioloid with equal virulence, and if the number of vaccinated who have the varioloid be greater, it may be justly ascribed to the fact, that the greater proportion of individuals are protected by vaccine. Furthermore, varioloid sometimes occurs among those who have had the natural small-pox, as well as those who are altogether unprotected.

3d. That previous to the introduction of vaccination or inoculation with small-pox, secondary small-pox occurred, and presenting forms different from the genuine small-pox, but partaking of its character.

4th. That in a great number of cases where small-pox has occurred after vaccination, and even varioloid, it has arisen from the vaccine virus being spurious.

5th. That great carelessness has been exhibited in vaccination, it being regarded as a simple operation, and has, therefore, been performed by those who are incapable of deciding whether the vaccine virus has gone through its regular stages.

6th. That although vaccine does not exempt all persons from what is termed varioloid, it does the greater proportion, and must be considered as the most efficient and safe plan of checking the ravages of small-pox, and therefore should be continually practised. Finally, it may be proper to remark that vaccination, in place of diminishing in public confidence from time and experience, is increasing. It is becoming general, not only in Europe and America, and the colonies, but in India; and the present Turkish sultan has had his children vaccinated, as an example to, and a means of introducing it among, his people. In several kingdoms of Europe, vaccination is conducted under the auspices of government. In the United States it is generally recommended, and in a few large cities vaccine institutions have been instituted, but it is much to be deplored that a means so simple, and yet so signal in its beneficial effects, should still be so neglected. To show how efficient vaccine is when properly conducted, the following out of many other evidences are presented to your view.

Dr. Luders remarks, that of two hundred and twenty-three thousand nine hundred and thirty-nine vaccinated, between 1801 and 1822, in Holstein, where the measures of the government ensure a perfect vaccination, there had occurred, down to 1824, only two cases of small-pox, and that in Denmark, among four hundred and forty-seven thousand six hundred and five vaccinated, only one such case has been met with.

Again, in the Orphan Institution of Charleston, having one hundred

and fifty souls, all of whom, except the officers and servants, are children, Dr. LOGAN, the physician to that institution, remarks, "Not a single case of small-pox or varioloid has occurred. All of the children are vaccinated by him, and if they have been previously subjected to that process, are re-vaccinated, to test the efficiency of the previous vaccination; and these children have been allowed to have communication with the citizens generally."

In conclusion, your committee would strenuously urge the propriety of vaccine institutions being established in the principal cities in our state, and would strongly recommend the citizens never to neglect having all under their care vaccinated. It is with pleasure they state that the city council have made an honourable and worthy advance in this important measure, and it is earnestly to be desired that what they have begun may be more generally and extensively adopted.

Respectfully submitted,

THOMAS Y. SIMONS, M. D., *Chairman.*
J. MOTTE CAMPBELL, M. D.
GEORGE LOGAN, M. D. } *Committee.*

REVIEW.

ART. XI. *Observations on the Structure and Diseases of the Testis.* By Sir ASTLEY COOPER, Bart. F. R. S., &c. pp. 245, large quarto, with plates. London, 1830.

IN undertaking a short analysis of this work for the information of our readers, it affords the greatest pleasure to express a conviction of its value, and of the many important professional precepts which it contains. The entire style in which it is got up, reflects much credit on the British press, and is evidently the result of much labour on the part of its distinguished author. The typographical part is finely executed, and the anatomical and pathological features elegantly illustrated by plates, each of which contains a number of figures representing natural colours. Sir Astley Cooper's name is so favourably known in the United States, that it requires no preparation of the public mind to receive indulgently his professional contributions. In addition to the intrinsic merit of the work under review, we cannot be less than much pleased in seeing one so abundantly rich as he is in professional honours, and in the means of personal comfort, still manifesting a zealous loyalty to his profession, and in the midst of every temptation to indulgence and relaxation, augmenting his well-earned fame, through the arduous course of dissections and clinical observations, and closing his professional life by bestowing such excellent legacies on his successors. In this he executes what all old practitioners recommend, but unfortunately too few perform.

The subjects treated of are the anatomy of the testis—its acute inflammation—simple chronic diseases—irritable testis—its inflammation from mumps—hydatids—scrofulous inflammation—venereal inflammation—ossific inflammation—scirrhous and fungoid diseases—castration—hydrocele—inflammation of the tunica vaginalis—cartilaginous bodies in the tunica vaginalis—fungoid inflammation in the same—hæmatocele—varicocele and chimney-sweeper's cancer. From the preceding list it will be seen that its range is extensive, and at least includes all the diseases of the testis that the practitioner is commonly called upon to manage.

Anatomy of the Testis.—This part of the subject has been treated in considerable detail, and the observations are, in general, confirmatory of the views of the best authorities. His injections and dissec-

tions seem to have been from the representation of them remarkably successful. There are, however, some peculiarities in his opinions. The average measurement of the testis he gives as two inches, by one and a half. This is certainly beyond the standard of the United States. The notion of a dartos muscle is repudiated in toto; in this opinion, however, we think the learned author rather too exclusive—for though in by far the majority of subjects its vestiges are extinct, yet occasionally the muscular character is very distinct, particularly when the colour has been evolved by the use of nitre. We also think contrary to his assertion, that the natural motions of the scrotum are in favour of this muscularity. Sir Astley considers the tunica albuginea to consist of two laminæ, the outer one resembling in its fibrous character the sclerotic coat of the eye—and the inner layer, which he calls the tunica vasculosa, and which he asserts to be highly vascular, and carrying its prolongations through the substance of the testis, to furnish pouches which conduct the blood-vessels, and envelope the tubuli seminiferi. This is an improved modification of the ordinary description of the septulæ testis. The corpus highmorianum, which exists at the back of the testis, Sir Astley, without referring to the established name, or indeed seeming to consider the knowledge of the part as common place, proposes, we think with very equivocal utility, to call the mediastinum testis. We have no objection to the term itself, but as the former is sanctioned by long and general usage, the introduction in its place of a new one, is detrimental, by a multiplication of terms, in a science already profuse in them. This effort, by the way, is not the only one in his book, and as the objection is equally applicable in other instances, we would here, as the advocate of anatomy, enter our general protest against it. There is no individual now alive, whose reputation can effect such substitution with the body of experienced anatomists, and a partial reform merely serves to make the inexperienced, misunderstand.

It will be unnecessary to trace the author through the description of the several parts of the testis, and its auxiliary structure; the whole is executed, as stated, much in detail, and in a very elaborate though satisfactory manner. The author coïncides with Mr. Julius Cloquet, on the anatomy of the cremaster muscle, (p. 42,) but does not refer to this very eminent anatomist as the origin of his information, in which we think he has made rather an exceptionable omission, considering that the observations of Mr. Cloquet on this subject are comparatively recent. We would indeed remark further, that as much of this work is devoted to pure anatomical descriptions of the testis, it as a scientific production, is singularly and rather lamenta-

bly destitute of reference, to what has been done by other able men, on precisely the same subject. Though elaborate, it is written with as much naiveté as if its excellent author were nearly all the time upon ground heretofore unexplored, either by his own countrymen or others. We do not think that the actual degree of novelty in it, compensates fully, for the omission of ordinary scientific acknowledgments. A strong personal regard for the author, inclines us to touch with lenity its defects; and yet this is one which perhaps the paramount interests of anatomy justify us in pointing out. We have indeed been frequently struck with the *insular* character of medical works emanating from the London press, and would scarcely suppose from the poverty of reference in them to the scientific labours of foreigners, that they radiate from a point of the globe, connected with other countries by almost innumerable channels of trade. Sir Astley is known to cultivate the most hospitable and liberal intercourse with foreign professional men; we therefore feel mortified in seeing this quarantine of other good works established in his own, especially when the latter might have been improved, by relaxing it somewhat. Living as we Americans do, at a great distance, and under circumstances unfavourable to national partialities or prejudices, we view tranquilly the scientific labours of all countries; we have no objection to receive such information as is useful, and as little hesitation in rejecting such as is trivial, and brought forward by the influence of high names or strong state connexions. Should these lines ever meet the eye of the distinguished author, we are assured that they will communicate nothing new to him in quoting, as also well worthy of study, the excellent plates and descriptions of Albinus, Haller, Loder, Ruysch, Munro, Hunter, &c. &c. on the same topic, none of which are referred to by him.

The acknowledged difficulty of injecting the tubuli seminiferi will make the following hint valuable.

"Having traced the canals of the rete (testis) and found that they were situated in and completely inclosed in the tunica albuginea, it struck me that I might inject these tubes with glue, or even coarse injection, by passing a fine silver or steel pipe into the canals of the rete; and having made trial of this plan, I have injected the tubuli seminiferi with coloured fine injection, and the vasa efferentia were also readily filled, and have been thus able to make some beautiful preparations, more easily dissected and much less easily spoiled, than those which are made by injecting the tubes with quicksilver. The rete can even be filled with coarse injection, and the beginnings of the tubuli and of the vasa efferentia will receive the injection. If the injecting pipe be placed in the back of the mediastinum, the injection readily escapes into the absorbent vessels, and those of the spermatic cord become filled."

Diseases.—The following observations exhibit a qualified and rational view of certain doctrines which were once very prevalent, and will perhaps indicate the general tenor of the author's mind on those points:—

"Hernia humoralis has been the term usually employed by surgeons, to express the inflammatory state of this organ (the testis;) but it is an appellation obviously founded in false physiological views, and upon mistaken pathological principles. The humoral pathology has vanished under better defined, and more correct pathological opinions; and diseases are at present attributed more to the altered actions of the solids, than to a change in the nature of the fluids. Yet perhaps the moderns have gone into a contrary extreme, and have too much lost sight of the fluids in the morbid changes of the body. For it is clear that the secreted fluids are often so changed in their nature, as to be capable of producing disease, and even of becoming poisonous—as the mucus of the urethra, in gonorrhœa—the matter of a chancre—the secretion of a small-pox pustule—and the fluid of a vaccine vesicle. My friend Mr. Colman has also found, that if the blood of a horse affected with glanders, be injected into the veins of another and healthy horse, it will produce the glanders in that animal; and thus he proves, by direct experiment, that the fluids are affected in that disease, as well as the solids; for its blood, the mucus of the membrane of the nose, the sinuses of the bones of the head and face, and even the lungs themselves, are brought into a diseased state. But still the term hernia humoralis is most improperly applied to inflammation of the testis; for although the disease be the consequence of gonorrhœa, it has nothing gonorrheal in its character, or venereal in its nature, and if I were not fearful of being thought affected, I should give it the name of *testitis*."

These views will probably receive the sanction of most practical pathologists of the present day, and we would merely remark, that the author's difficulty of a good name, has already been overcome for some years past, by the adoption of that of *didymitis* by very excellent authority,* upon admitted principles of the modern and improved nomenclature of diseases.

Sir Astley recommends for this affection an active antiphlogistic treatment, with suspension of the part, and a recumbent position, in fact, the mode of management commonly adopted. Should circumstances render the application of leeches inconvenient, he considers that a good substitute may be found in puncturing, transversely, three or four veins of the scrotum with the point of a lancet, the patient being upright. They will bleed freely, especially if the scrotum be placed in warm water, and upon the patient lying down the bleeding will cease.

Should the depleting practice not succeed, from a peculiar irrita-

* Roche and Sansom.

bility of the patient's system. our author recommends submuriate of mercury, with Dover's powders; but he specifies neither the dose nor the duration of such treatment. He considers that immediately upon the formation of matter by suppuration, a free opening should be made into its focus, to prevent the destruction of the tubuli seminiferi.

For the chronic induration and enlargement of the testis, consequent to its acute inflammation, Sir A. recommends various ointments, the basis of which is either mercury or iodine—he speaks highly of an oiled silk bag; also of the internal mercurial treatment, &c. From the variety of his prescriptions, we are inclined to think that he, like the rest of us, has found this rather an untractable affection.

The chapter on irritable testis is highly interesting; the affection is principally known by an undue and permanent sensibility of the part, attended with but little tumefaction. All motion and even handling is attended with an increase of pain. Sir A. says that it sometimes endures for years, and that he has found it occasionally so untractable, attended with so much distress, and producing such complete inaptitude for business or pleasure, that he has been thrice compelled to acquiesce in the wishes of patients to obtain relief from an operation. The author does not consider this disease to be inflammatory, but rather of the nature of tic douloureux. On dissecting the testicles which he removed for it, he found no apparent change of structure in any of them. His treatment is tonic, narcotic, mercurial, and revulsive, but not depletory.

On hydatid disease, Sir Astley remarks, that there is so strong a resemblance between it and hydrocele, that it is occasionally misunderstood by the most experienced practitioners of the metropolis.

"I know there are persons who never confess an error, but give all their successful cases to the world, carefully concealing those that are unfortunate, and thus lead young men to believe that our profession is much more successful than it really is; but this is a most unfair procedure, for it is only by a comparison of success and misfortune that a fair and honest conclusion can be drawn. A surgeon once said to me, 'you are foolish in mentioning your unsuccessful cases, which the world will discover soon enough.' To which I might have replied, 'you are dishonest in relating those only which are successful, as you thus give an improper colouring to your profession.'

"For myself, I confess that I have been two or three times mistaken, and put a lancet into the part, expecting to find water issue, and a few drops of blood only have followed. But further I will observe, that I have no shame in confessing this, nor have I seen mischief arising from it; but on the contrary, in doubtful cases, I recommend that a small incision be made into the tunica vaginalis, to ascertain if it contain a fluid or not. In doing this, no injury can happen to

the testis, and the surgeon's mind is completely at rest respecting the existence of hydrocele."

In addition to this test, Sir Astley considers that the following diagnostics should be attended to in hydatid disease:—A yielding rather than a fluctuation—a heavier swelling—the general form of the testis being preserved, although it is somewhat more pyriform—the entire absence of transparency—the sensation of the testis being squeezed, if the compression be considerable—the dilated state of the vessels of the cord and scrotum—and the testis in hydrocele being felt at the lower and back part of the swelling.

Our personal experience is in favour of the difficulty of distinguishing between hydrocele and hydatid disease, and we have seen one case where the affection was not cleared up until a trocar was introduced in fact for a hydrocele, and the water drawn off.

Sir Astley considers all other treatment but extirpation as useless in this disease, and his experience teaches that to be completely successful. We are sorry that we cannot join him in this experience, in two cases which have come under our view, and where the testicle was the size of a large ostrich egg; it was found to be attended with great enlargement and fungoid degenerescence of the lumbar lymphatic glands. In the one case the patient died shortly after the operation, and in the other at a more remote period. The plate on this disease is admirably executed.

The scrofulous inflammation of the testis, is considered by the author to be merely the result of that vitiation of our tissues which occurs in the scrofulous diathesis; he has given the several indications of this which we have no occasion to repeat. He considers the most of the secretory glands as exempt from this degenerescence excepting the testicle, which is subject to it from puberty till manhood, and occasionally even in infancy. This affection is marked by swelling, without pain, and having a very slow increase; the scrotum is undiscoloured, and its veins are not enlarged. After a while suppuration follows, and most frequently in the epididymis. If the affection be not cured, the testis wastes away, until only a very small portion is left.

As Sir Astley views this as a disease of debility, he accordingly recommends air, sea-bathing, tonics, alteratives and iodine; to cure the sinuses which are left he uses stimulating injections.

Venereal inflammation of the testis, which may be doubted by some, our author speaks of as having frequently presented itself to him, along with the secondary symptoms of syphilis. His remedy for it, is a course of mercury.

His observations on fungoid disease present the characters of this affection in extenso, and in a very interesting light. When once formed he considers the complaint as hopeless, for it runs on to a fatal termination in spite of internal remedies, castration, or any thing else which has been heretofore devised. He, notwithstanding, recommends the removal of the testicle within three months of the beginning of the disease, and the use of alterative medicines to prevent the return of the latter. It is scarcely necessary to state that this alterative plan consists in the administration of the preparations of mercury. As the cases quoted in illustration were all fatal, we have yet to learn whether the treatment will succeed.

On the subject of varicocele, Sir Astley recommends the palliative treatment in common use, as a suspensory bandage, refrigerant lotions, and avoiding tight clothing about the abdomen. He puts no confidence in tying up the spermatic veins, and makes the following remarks thereon.

"It is an operation which I should dread most exceedingly, as placing the life in great hazard, and which I would not therefore recommend: for operations upon veins, from the great irritability of those vessels, are more dangerous than those on arteries, extended inflammation sometimes following, sometimes even to the heart itself; and often a suppurative inflammation on their inner coats, which I have several times seen destroy life in operations on the veins of the extremities."

In taking our leave of this production, we feel it a duty to express again our sentiments of its value, and to recommend it to the attentention of the medical public. W. E. H.

BIBLIOGRAPHICAL NOTICES.

XII. *History of Chronic Phlegmasiæ, or Inflammations, founded on Clinical Experience and Pathological Anatomy, exhibiting a view of the different varieties and complications of these Diseases, with their various Methods of Treatment.* By F. J. V. Broussais, M. D. Knight of the Royal Order of the Legion of Honour, Physician-in-Chief and First Professor in the Military Hospital of Instruction of Paris, Member of the Royal Academy of Medicine, of the Royal Medical Society of Madrid, of the Patriotic Society of Cordova, Corresponding Member of the Society of Emulation of Liege, of the Medical Societies of Philadelphia, New Orleans, and Louvain, &c. &c. Translated from the French of the Fourth Edition, by Isaac Hays, M. D. and R. Egleseld Griffith, M. D. Members of the American Philosophical Society, of the Academy of Natural Sciences, Honorary Members of the Philadelphia Medical Society, &c. &c. Philadelphia, Carey & Lea. 8vo. Vol. I. pp. 497; Vol. II. pp. 404.

We have long desired to see an English version of this chef-d'œuvre of the founder of physiological medicine. Standing as it does, as the parent stock whence have issued the two rival schools of modern medicine, its mode of investigating diseases, as well as the facts which it contains, should be familiar to all who take an interest in following up medical science in its present rapidly improving condition. For where shall we find, among the numerous works which have appeared in France since the first edition of the History of Chronic Phlegmasiæ, in 1808, one that has surpassed this their great prototype; or even connected in so clear and philosophical a manner the morbid alterations of structure disclosed after death, with the antecedent operation of morbid causes and the modifying effects of remedial agents, so as to deduce from the whole a body of doctrine in the true spirit of the inductive system, as is every where exhibited in the work before us? Let us go one step further. The physiological doctrines, based, as all must admit, on a knowledge of the healthy and morbid structures of the system, and the influence which external and internal stimuli exert on the various condition of these structures, are in truth intimately connected with the progress of pathological anatomy, and must eventually give to such researches what they shall actually possess of practical value; however the anatomical pathologist of the present time may disclaim the connection, and pretend to build up a system of science on anatomical characters wholly devoid of theoretical deductions. Although many of the works of this class have largely partaken of this spirit, they all exhibit, in a greater or less degree, the influences of prejudice and early preconceptions. Let us recal, in a cursory way, the characteristic features of some of the most eminent, and examine how far they have advanced the science in deviating from their great model.

The immortal work of Laennec's, it must be confessed has greatly advanced our knowledge of the diagnosis of diseases of the chest, still the spirit of his

investigations tends, in our opinion, to give a vicious direction to the study of pathology, by viewing too exclusively the organic lesions as constituting the essence of the disease, without duly appreciating the various agents that have modified these alterations in their progress, from their incipient condition to their fatal termination. Such a mode of investigation is very far from justly estimating the effects of irritation, with their attendant consequences, as first pointed out in the work before us, and still more fully developed in Broussais' later productions. Even Andral's *Clinique*, containing an immense collection of valuable facts, every where exhibiting persevering research, sagacity of observation, and untiring minuteness of detail in tracing out and displaying the morbid alterations induced, is yet extremely defective as a doctrinal exposition of the science. We rise from the perusal of its numerous cases, conscious of having travelled over an immense field, rich with the fruits of actual observation, but unable to apply its stores to the daily occurrences of practice. The author has endeavoured to execute the work in the exclusive or pure spirit of empirical observation, without allowing himself to be swayed by the opinions or principles of any system or doctrine whatever, either in drawing up the individual cases or in afterwards grouping the whole in conformity with any such previous views; and we are free to acknowledge that he has executed this determination with entire success. Consequently, his facts and observations stand out, separated and detached, in a great measure, from each other, bearing no constant and close relations with the vital laws of the economy, and indeed as a whole are insusceptible of being formed into a system of principles for future guidance in the observation and treatment of diseases. Volumes of such works would doubtless greatly add to our already accumulated mass of valuable but sterile facts, without, however, contributing in any material degree to the advancement of scientific, or what we esteem synonymous, systematic medicine, by extending our knowledge of the laws which regulate the vital operations in health and disease.

If such be the errors of two of the most eminent and successful of the anatomico-pathological school, how much more is there to object to most of the others. Cruveilhier, who perhaps deserves to be placed in the first rank of this class of physicians, is more exclusively a pure pathological anatomist than Laennec himself, and can hardly be considered, in the ordinary acceptation of the term, a cultivator of pathology. His second performance, the *Médecine Pratique*, however, exhibits less of this fault, and deserves to be placed among the valuable contributions of modern pathology; whilst the splendid work now in progress displays rather the talents of an able anatomist than the reasonings of a profound pathologist.

Lallemand's most excellent treatise, a work unrivalled on the pathology of the brain, although it was drawn up for the most part from the cases and practice of others, whilst the author was as yet a student of medicine, is too evidently the result of his adoption of the physiological doctrines as inculcated in the *Chronic Phlegmasiæ*, *Examination*, and other productions of that school, to allow us to class him with the anatomical pathologists. Yet he himself seems unwilling to merge his professional character under the overshadowing influence of the great reformer, and would be considered as advocating no particular system of doctrines. Such feelings may be praiseworthy in themselves,

calculated to advance the general interests of science, and we do not complain of them, but while we accord unqualified praise to the work, as one of the most valuable contributions of the age, we must not be unmindful of the genius that presided over its execution, and has substantially given to it that which has placed it in the very first rank of contemporary productions.

Passing by Bayle, Serres, Olivier, Bertin, with many other authors of excellent monographs, as well as the whole host of writers acknowledging themselves to be the adherents and favourers of Broussais' system of doctrines, we will barely mention Gendrin, Billard, Rostan, Tacheron, Breschet, Georget, Lobstein, and Bretonneau as furnishing valuable additions to our stock of pathological knowledge under the best influences of the principles of the physiological medicine, without at the same time avowing themselves the advocates of its peculiar tenets.

In this long list of the authors of the anatomico-pathological school, we have omitted the name of Louis, because we have nothing to object to him on the score of his mode of investigating disease, and moreover his labours are sufficiently distinct to deserve to be considered apart from the sect which claims him as a collaborator. Louis is, if possible, less of a theorist than Andral in his *Clinique*, for there is no want of that quality in his *Précis*, yet the rare talent of discrimination with which the different morbid derangements are analyzed, referred to their respective origin, and the collective cases of each disease grouped by their analogous symptoms, all naturally tend to give to his researches a systematic form, and a practical usefulness which we may in vain seek for in the writings of Andral, or indeed of any of the disciples of this school. After the work now under notice, we know of no modern French production so worthy of being translated into our tongue as the *Recherches Anatomico-pathologiques* of Louis, and his work on typhus and other malignant fevers. They seem to us calculated to be of more immediate service than any of the productions of the physiological school. They certainly possess this advantage over any of the writings of that obnoxious sect—they have not been judged and condemned unheard, and all classes, both practitioner and student, would willingly draw from their abundant treasures many excellent practical lessons, without the apprehension of being contaminated at the same time by medical heresies.

In thus passing in rapid review some of the many works that have felt the happy influences of the History of the Chronic Phlegmasiæ, let it not be thought that we have lost sight of the work under consideration. We deem its effects in that respect to have been highly important, and that its example will be still felt in the further progress and improvement of the science. Besides, it cannot be expected that we should at this late day make a critical examination of its principles and peculiar doctrines. The high encomiums that were passed on the work on its first appearance, in 1808, have never been called in question, even by the staunchest opponents of the physiological medicine, although all the other productions of the author have given rise to a violence and acrimony of controversy that is unexampled in the annals of the profession. We refer, therefore, the reader to its pages for what he will find well worthy of his study and meditation, with simply remarking, that it was in this work Broussais first called the attention of the profession to the great and important truth, that there was a numerous class of obscure diseases with ano-

malous symptoms, which were considered to arise from debility and languor of the system, or some vice or vitiation of the habit, and for which stimulants, under the designation of tonics, antispasmodics, resolvents, deobstruents, &c. according to the particular theory held and the supposed nature of the case, were universally lavished, to the inevitable injury of the constitution and the frequent fatal termination of the disease. That, on the contrary, all these cases arose from and depended upon an inflammatory irritation of an obscure and chronic character of the digestive or respiratory organs, and that they required for their removal the avoidance of all irritating agents, and the employment of depletion, antiphlogistics, emollients, diluents, or appropriate revellants, according to the seat and force of the ailment, and other attendant circumstances. When we consider the benefits that have arisen from the propagation of such views in the treatment of dyspeptic cases alone, we shall not hesitate to place Broussais among the great benefactors of the age, although he had never given to the world the physiological medicine. The prodigal use of stimulants in these cases had been so ancient, universal, and deep-rooted, that it required, in order to meet the question properly, to inquire into and scrutinize the cause of these derangements, the modifying operation of agents on their progress, and to ascertain the nature of the lesions left after death. All this Broussais has done in an able manner, and so far definitely established his principles that no one has endeavoured to refute them by resorting to the same inductive method. The doctrine of the inflammatory origin of tubercles, wherever seated, has encountered more opposition; still, whoever shall dispassionately examine the facts and arguments on which this opinion is founded, must admit that inflammation has much more to do with their production and ulterior changes than either Bayle or Laennec are willing to allow. Moreover, the doctrine of their inflammatory origin is calculated to lead us to place confidence in such hygienic and remedial measures as experience has proved to be of most avail, where our resources at best have heretofore done so little.

We here close our brief remarks, satisfied, if we should be successful in giving our readers as high an opinion of the work as we ourselves entertain of it, we would thereby render a better service than if we had endeavoured to compress its prominent doctrines within the limits of a review. C. D.

New York, September, 1831.

XIII. *Descriptio Ichthyosis Corneæ Congenitæ in Virgine observatæ, tabulis tribus lapidi incisis illustrata.* Bremæ. Chr. Helv. Schmidt, M. D.

Description of a Case of Congenital Ichthyosis Corneæ, observed in a Young Girl; with three Lithographic Plates. By Chr. Helv. Schmidt, M. D. Folio, pp. 15. Bremen, 1830.

Frances Kroone, the subject of this case, was born in the town of Düstedt, in Holland, a short distance from the Rhine. When seen by Dr. Schmidt, she was twenty-two years of age; her face was perfectly free from every organic defect, and quite comely; her complexion was fair; her skin soft and thin; her eyebrows and eyelashes yellow, dense, and well-formed; her teeth sound and handsome.

The disease first made its appearance at the origin of the sterno-cleido-mas-

toid muscles, under the form of scurf. The upper portions of the breast and neck not so well covered by the dress, were unaffected by the disease, which was likewise the case in the axillæ, where there was a scanty covering of hair; but on the areolæ of each mamma were to be seen very dense excrescences, arranged in concentric order, and from the inferior part of the breasts the ichthyosis, which was of the simple species, however, at first, covered the whole body, save a place which was but partially affected at the umbilicus, and a few spots upon the back. Numerous small, very dense scales, one or two lines in height, and seated in the skin, covered the whole abdomen, back, nates, feet, and arms, as well as the palms and soles; and the head itself was not entirely free.

On each of the extremities were to be seen firm, horny corpuscules, mingled with some hairs, three or four lines, or even more, in height: one was two or more lines broad, and to appearance squared by rule, some were round, and others again in the form of an inverted cone: the stems of the latter were connate in patches of three or four, and impaired in various places the appearance of the checquer work. Between the digital members of the hands and feet, and at their extremities, these horny crusts were broader; partly from the compressions they experienced, and partly from a thicker concretion, on account of the greater sudorific discharge of these parts.

The configurations covering the palms of the hands were extended to the arms, where they were even more numerous and thick, though the lineaments of the arms could still be traced. But the feet and legs were so surprisingly deformed as to render an accurate description very difficult. Upon the extremities of all the phalanges, the disease was likewise to be seen, through which the redness of the subjacent parts appeared. But the feet and especially the right one, were completely sheathed, and the scales were very large and thick on the sole of the foot; some nearly an inch long, and as much elevated; some of the colour and texture of horn, and others of an ivory appearance: there was likewise a great variety in their form.

But the disease did not only invade the epidermis, it attacked the nails of the fingers and toes, which were subjected to similar changes. Those of the fingers were thick, short, rigid, and cloven; the lamina of which they were composed were distinctly seen; their *lunula* of the nails was effaced. Their colour was of a pale yellow, nearly resembling burnt horn; the extremities of the phalanges were pointed. The nails of the toes were thicker than those of the fingers and narrower than usual, composed as it were of horny tubercles, curved upwards, and of irregular form, since as the inferior stratum of the nail was unimpaired, they had elevated a part of the superior surface of the plate.

The head itself was not free from this covering. The whole anterior part of the scalp was covered with large sessile scales, which, just at the margin of the forehead, were separated by a narrow tract of mingled yellow, white, gray, and black hairs, chiefly diseased, which at the occipital portion of the head were collected into a fasciculi of the same kind, six or seven inches long, between which, however, the disease was similarly conspicuous. But these few hairs were said to have only been produced by the greatest care and diligent washing, when the girl had desired to cultivate them for the improvement of her appearance.

The colour of this crust upon the scalp was light yellow, but of a whitish cast, dirty or pulverulent at the upper part of the back, mammæ, and surrounding parts, and of a dark leaden hue at the inferior part of the abdomen and back, at the haunches and legs; upon the hands and feet it was of a dirty-yellowish brown and olive hue.

Besides these peculiarities, the whole of the thorax was covered with a singularly loose and peculiar skin, which in some places, where the skin covered the bones only, as at the elbows and knees, formed singular rugæ; in other places, as for instance over the glutei muscles, it composed not less than sixteen or twenty regular semicircles. The rugosities of this diseased skin were so far peculiar to it, that when an attempt was made in the neck or places less affected by the common disease to enclose a portion between the fingers, innumerable rugæ were immediately formed, which was not the case a few inches above in healthier places, or where there was a greater abundance of fat.

But the diseased skin, in places deprived of this covering, appeared dry, harsh, and redder than elsewhere. The corpuscules were firmly adherent, as if rooted in the skin, and bled when torn off by force, though when the hard mass was seized with the forceps, they could be removed without pain. When this was done, a minute, (central,) style of a line in bulk was seen, whitish and softer than wax, which, however, when exposed to the air, was quickly hardened. These hard crusts were chiefly, and especially upon the arms, of a polished appearance, and emitted a noise when they came in contact with hard bodies.

Such is a succinct description of the affection, as observed by Dr. Schmidt in this unfortunate girl, of which M. Alibert has thus spoken in the Dict. des Sciences Medicales: "I question whether such a remarkable phenomenon will occur again in the course of ages," &c. She was the third child of a family of four, the parents of which had been some time dead. Her father was a painter. The two brothers and a sister, which composed the rest of the family, were never in the least affected with this disease, nor are their children.

The disease early made its appearance upon the skin of this female. It was observed, in fact, by the accoucheur, four or five days after birth; the skin of the infant presenting a hoary appearance, not removeable by ablution. Her mother likewise observed it, when she had recovered from her indisposition, and attributed it to the neglect of proper cleanliness, and many remedies were immediately applied, but without any effect. Finally, with the superstition common to such persons, in the absence of palpable causes for any particular event, she attributed this affliction of her child to her having fallen into a lake, when pregnant with her and in perfect health, and her being taken sick immediately afterwards, after she had remained a long time upon the trunk of a floating tree.

The diseases to which she was subsequently exposed in her infancy were measles, scarlatina, varicella, and variola; the three first were light attacks, but the last affected her severely, and aggravated for a long time the congenital disorder. None of the variolous cicatrices were visible any where upon the skin, nor in any of the different periods of desquamation did she profess to have been entirely free from ichthyosis. She was also for a few days affected with icterus. There was some stiffness of the fingers of the right hand, and a difficulty in extending them, which she attributed to an inflammatory swelling she

had experienced at the elbow joint; in which there was some similarity, not perhaps entirely fortuitous, with the well-known case of John Lambert, who had little controul over the motion of the right hand, as was remarked by Thilesius, who attributed the cause to his having at too early an age been made to carry the weapons of the hunters.

Frances Kroone at eighteen commenced to menstruate, which she subsequently continued to do at the usual period, and in large quantity. She was not subject to any peculiar diseases and enjoyed good general health. She was more affected by cold than persons are usually, fond of a high temperature, and felt better in summer. In winter she was much annoyed by the coldness and dryness of the winds; when these prevailed, the fissures upon the feet would gape open, so as to admit a finger, and sometimes discharge blood. She perspired spontaneously over the whole body, but especially in the arm-pits. During the cold season, she was obliged oftener than is usual with others to pass her urine, which however was nowise peculiar. Desquamation took place to more extent at the vernal and autumnal equinoxes than at other periods.

The crust upon the hands was not so much of an incumbrance but that she was able to use them in washing herself, and many other manipulations; latterly she had learned some artificial employments, and was able, with her eyes shut, to distinguish by the touch, metals, silk, paper, &c.

Her face and thorax were well formed, and appeared to indicate the same condition of the body; which, however, was not the case. For the extremities were emaciated, and there was great deformity resulting from an inclination of the pelvis, that made the glutei appear thicker and more monstrous, thereby rendering the defect in the legs below, so much the more conspicuous. Indeed, the inclination was so great, that it more than the diseased condition of her feet, rendered her gait vacillating and uncomfortable. Walking likewise excited pain at the acetabula.

Such, at least, are the material facts which, during the few days she remained in the city of Bremen, were gathered respecting this interesting case, by Dr. Schmidt, partly from observation, and partly by inquiries from the individual herself.

Simple ichthyosis, though a disease occasionally occurring, is almost unknown in Germany. This disease was termed by Dr. Schmidt a case of Ichthyosis corneæ, and apparently with good reason, for upon other parts of the body, as well as upon the palms of the hands and soles of the feet, there were morbid productions of a horny nature.

Ichthyosis has been considered by writers, viz. Thilesius, Alibert, Martin, &c. as an hereditary disease, occurring generally in the first two or three months of existence; in this individual it was observed four or five days after birth.

The hereditary nature of ichthyosis was conspicuous in the Lambert family, all the males of which, but none of the females, were affected for three generations. Many cases exist to prove that it is not always propagated by diseased parents to their children, some escaping in the same family, while others were affected. There is proof also in the history of some females, as described by P. J. Martin, of its hereditary nature, in which it was transmitted from a mother to her daughter. It is stated by Rayer, that a man named John Brayer, and his brother, both sons of a diseased father, laboured under general ichthyosis, while

their sisters, and their sisters' children, were entirely free, so that there is direct evidence of its having been transmitted from father to son, and from mother to daughter; this at least has been the case in simple ichthyosis, as experience has taught.

The causes of ichthyosis is as yet unknown. It is supposed by Alibert, with some little tincture of the prejudice of the vulgar, that in maritime places, and along rivers where fish abound, the system, by being fed from their products, may be disposed to this disease; though he afterwards more courageously asserts "that the causes of this disgusting and detestable disease is totally unknown." This supposition of M. Alibert, which is not wholly without supporters, may perhaps, with those fond of the marvellous, find an increase of support, from the fact that the mother of this girl, was, while pregnant with her, exposed in a lake upon the floating trunk of a tree, to the malignant glances of the watery basilisks. It is perhaps a sufficient trial of our credulity to attribute this intra-uterine derangement, (as others of an analogous nature are,) to the mental anxiety and dread of the mother, acting through the sympathetic nerves, which prudently observes Dr. Schmidt, he will neither admit nor gainsay. There now exists well-authenticated instances of sudden and surprising changes on the surface of the body from moral emotions, such as the turning the hair from black to gray in the course of a few hours, and similar effects in the rete mucosum. Where we cannot explain, it is safer and more manly to admit our ignorance, for then at least the road is open to improvement.

Ichthyosis has by most writers been considered an affection of the epidermis only, though Thilesius considered it to consist in a morbid state of the sebaceous follicles of the cutis. Dr. Schmidt, for the following reasons, is disposed to coïncide in opinion with the latter: partly because he has seen some of these horny tubercles occupying the site of these follicles, and partly because when they were carefully extracted, an elongation, having the appearance of a root, appeared to come from the follicles themselves. Besides, as the epidermis is a production of the subjacent rete Malpighi, any cause producing a morbid secretion of this structure, would give rise to an unusual epidermis. From this cause, the whole skin was affected in the case which forms the subject of this treatise, and there was in support of this opinion, an unusual deficiency of fat over the whole body, and especially in the diseased parts, which produced perhaps the looseness and rugosity of the skin. However this may be, the secretion of the epidermis was changed both in quality and quantity. Admitting that these horny bodies consisted in induration of the epidermis, still the sudden and peculiar hardening, and the great mass of the secretions, indicates such derangement of the *nisus formativus*, as to confirm the opinion of the hereditary nature of the disease.

These substances were chemically very analogous to the horn, hair, and shells of animals.

That Frances, observes Dr. Schmidt, whose skin was thus covered, sweated freely over the whole body, appears to be owing to the peculiar pores lately investigated by Thomas Gordon Hake. In some places where no crust was found, the author is disposed to attribute the cause, to the profuseness of the sudatory discharge. In the same way he likewise accounts for the absence of the scales in the palms and soles of the Lambert family. Such, too, is nearly

the opinion of Thilesius. In all the cases above referred to, no crusts were found in the axillæ, which were attributed to the same cause, copious discharge of sweat; which the girl admitted was very abundant there, as was likewise demonstrated by the hircine odour, and effects upon the vestments of the part.

All the writers upon this disease assert that the individuals affected with it, though possessing a tolerable proportion of health, were nevertheless subject to rachites from their birth.

In lighter cases of ichthyosis, and especially in infants, there is, in the opinion of Dr. Schmidt, more or less of the scrofulous diathesis present, and many of which are affected with *crustæ lacteæ*, but in all which cases he likewise observed a dryness and rugosity of the skin, as well as secretions analogous to that of ichthyosis upon the skin of those labouring under atrophy, tabes, and dropsy, which appear to arise in a similar way from the lack of fatty matter peculiar to this disease, and to disappear when it was restored to the skin.

Whether or not, the extreme emaciation of the extremities in this female was owing to an affection of the whole lymphatic system, and to which the disorder of her general health was to be ascribed, it is not possible, from the observations given, to decide. The peculiarly melancholy expression of her features, is, however, well deserving of notice, a circumstance which Alibert asserts is not only always an attendant upon ichthyosis cornea, but likewise aggravates the disorder so much that stupidity may be the result, in consequence of the continued contemplation of their deformity and their gloomy prospects for the future.

In regard to the colour of the crusts, much appears to depend upon the sex of the patient, and the peculiarity of location. "For why," it is asked, "does it appear darker upon the abdomen of the female, which is covered with clothes, than upon the hands and feet, always subject to exposure?"

Dr. Schmidt likewise noted a singular and peculiar slimness of the first digital phalanges, in this female, of which, however, he has seen traces a few times in other diseased affections of the skin. In regard to this fact, he asks, "Whether it is to be considered as an indication of the severer cutaneous diseases, as, on the other hand, a thickness of the phalanges is noticed in those labouring under diseases of the heart and lungs?"

Three very well executed plates accompany this case. The first exhibits the whole person, the second the hand and fore-arm, and the third the foot, the two last are of the size of nature. Dr. Schmidt's publication constitutes an interesting addition to our science. J. P.

XIV. *Directions for making Anatomical Preparations, formed on the basis of Pole, Marjolin, and Breschet; and including the New Method of Mr. Swan.* By Usher Parsons, M. D. Professor of Anatomy and Surgery. Philadelphia, Carey & Lea, 1831.

Perhaps no single circumstance serves more to distinguish the state of medical science at the present period, than the increased attention to healthy and pathological anatomy. While physiological medicine rejects all symptomatology, which does not consist in an accurate knowledge of the connexion between the appearances of disease and the actual condition of the part affected, it renders

necessary a more accurate acquaintance with the normal state of all parts of the system, as it founds its high pretensions upon the revelations received from extensive examinations of diseased organs in every stage, and under all the various circumstances of morbid action. The necessity and importance of frequent post mortem examinations are gradually acquiring the sanction of public opinion; so that among the enlightened, permission is now seldom refused to him who would investigate the cases of rare disease and sudden death, which occur in private practice; while in large cities the infirmaries and hospitals afford to the metropolitan practitioner the most ample opportunities for the prosecution of pathological anatomy. But the pursuit of practical anatomy, with a view to a minute acquaintance with the structure of the human body, requiring patient and protracted dissection, mutilating, and destroying the subject, has still to contend with public prejudice. And, although in most of the medical schools in this, and other countries, little difficulty is now experienced in procuring the necessary subjects, the appeal of the whole medical profession of Massachusetts is still sounding in our ears, and the *self-devotion* of the members of one of the most distinguished surgical colleges in Great Britain is still fresh in our remembrance. Little, however, does it avail the great body of surgeons who are scattered among our villages and throughout the country, that dissection is readily prosecuted in our large cities. Too often they are compelled to undertake the most important operations, depending solely upon the recollection of their anatomical labours when students, and occasional references to text books and plates. Since the establishment of the principal medical colleges in our country, probably few leave them to enter into actual practice, who have not prosecuted practical anatomy, and prepared many pieces of dissection, which, if preserved, would have been invaluable to them in after life. In many places where practical anatomy is taught, the art of making and preserving preparations has been but too little considered; and although some instructions are appended to many of the manuals of dissection which have been published in this country, the American press has produced no systematic treatise on the subject but the work now before us. Since the time of Ruysch and Munro, the art of making anatomical preparations had undergone but little improvement, until within a few years the labours of Dumeril, Breschet, Marjolin, Cloquet, Bell, Pole, and Swan have brought it to its present state of perfection.

Without making much pretension to originality, a claim which the very nature of the subject forbids, the work of Dr. Parsons, uniting the result of the individual labours of all his predecessors, with his own experience, is decidedly the best treatise on the art which we have seen. In the introduction, are contained some valuable remarks upon the economy of dissecting rooms, and the process of dissection, with practical observations on the diseases consequent to wounds produced by instruments when charged with some morbific matter present in the subject. Too often these cases are neglected entirely, until the occurrence of severe pain, tumefaction, and febrile excitement call urgently for relief. To meet these circumstances, the treatment recommended by Dr. Parsons is highly appropriate; but in considering the cure, the Dr. has omitted what we consider of even more importance, the prophylaxis. It may appear to be an unnecessary and timid precaution, but from considerable observation, we are convinced that if the wounds received in dissection were immediately

subjected to strong suction by the mouth, and carefully washed with soap and water, recommended by the late Dr. Godman, we should have no more of these fatal cases; and when the subjects have died of inflammation and suppuration of the serous membranes, we think it should never be omitted.

From the nature of this work, consisting as it does, of plain and practical details, it scarcely will admit of an analysis. Beginning with the ordinary mode of making injected preparations, we have in succession all the different forms, cerated and mercurial, dry, wet, and corroded. The difficulty of filling the minute veins of the extremities with coloured injection, has always been acknowledged, and the attempt has been almost abandoned. The ordinary mode of injecting these vessels with mercury, with the ingenious contrivance of our author for obviating the opposition presented by the valvular structure of the veins, and thus filling the extreme vessels with common injection from the large trunks, we shall give in his own words.

"Section XX. *Injection of the arteries and veins of the hands and feet, with coloured injection for dissection and corrosion.*—These preparations have, I believe, never been made by any one but myself. Quicksilver has long been used for filling such veins, by supporting a column of it for some days in an artery going to the hand or foot, and then twisting a cord round the wrist or ankle, and drying and planting the preparation in a pedestal of wax or plaster of Paris, with the fingers and toes upwards. Such a preparation exhibits the superficial vessels very beautifully, and especially the nourishing arteries in the roots of the nails. No coloured injection has, however, within my knowledge, been made of the veins of the fingers and toes, that will admit of their dissection. Proceed in this as in the foregoing case, more particularly described in section 56. When the arteries and veins are filled to running over, insert a pipe into one or two of the largest veins, and without tying the cord, let the part dry as soon as practicable; then shave a thin portion from the ends of the thumb and fingers or toes, and let the quicksilver run out from them, and also from the pipes by inverting the part. Then inject the arterial pipes with coarse cold red injection, and the venous pipes with yellow, white, or dark blue, continuing the pressure till the injection appears at the ends of the fingers. Pass a cord round the wrist and immerse the part in tepid water for a day or two, to restore the softness, so as to admit of dissection; or if the object be to make a corroded preparation, macerate for some months, and wash away the soft parts by a stream of water directed upon it, as described in directions for making natural skeletons of small animals. The obstacle that has hitherto presented itself to injecting the veins of the hand and foot, is their valves. But here the quicksilver, by its upward pressure, if continued till the valves are dried, throws them open, so that the injection flows contrary to the current of the blood, with perfect facility."

In connexion with the subject of wet preparations, we cannot forbear to advert to the method of preserving the natural colours in specimens of morbid anatomy, as quoted by our author, from an essay by Mr. Gaskoin, in the London Medical Gazette, for 1828. When on a visit to New York last summer, some morbid specimens in the cabinet of one of the most eminent surgeons of that city, prepared in the manner above alluded to, were submitted to our inspection, which retain their original colours and appearance in a remarkable degree.

Besides directions for all the various preparations of actual anatomy, we find the methods of modelling in plaster extracted from Pole; and a useful chapter on the preservation of subjects of comparative anatomy. In short, we consider the appearance of the work before us, as most opportune, at a time when the

facilities of practising dissection and obtaining specimens of pathological anatomy serve to render it peculiarly valuable. We therefore recommend it to the student and practitioner, as the best exposé of the present state of the art of making anatomical preparations, and hope that it will be found in every dissecting room, and in the hands of every one engaged in post-mortem examinations.

With regard to the execution of the work, consisting as it does of plain practical details, we can bestow no greater praise, than to say that the descriptions are for the most part clear, concise, and intelligible; but with respect to the typography, we are sorry to observe many errors, which, though not important in themselves, would not have escaped a professional corrector of the press.

T. C. D.

XV. *A Manual of Medical Jurisprudence, compiled from the best medical and legal Works, comprising an account, 1st, Of the Ethics of the Medical Profession; 2d, The Charters and Statutes relating to the Faculty; and 3d, All Medico-legal Questions, with the latest decisions: being an Analysis of a course of Lectures on Forensic Medicine, annually delivered in London, &c. &c.* By Michael Ryan, M. D. &c. &c. London, 1831. pp. 309. 8vo.

We have so often in our preceding numbers called the attention of the profession to a branch of study, but too generally neglected in this country, and to the benefits resulting from a competent knowledge of its principles, that it would be superfluous to again repeat the arguments we have adduced in its favour. We have, however, been so much pleased with Dr. Ryan's work, and so well convinced that it is calculated to fulfil the intentions of the author, that we cannot forbear again soliciting the attention of our readers to this important subject. The main object of Dr. Ryan has been to afford the greatest quantum of information in the smallest compass, and in the most familiar manner; or in fact to simplify the subject as much as possible so as to render it intelligible to every class of medical practitioners, as well as to gentlemen of the bar, jurymen, and even general readers. This task the author has executed in a satisfactory manner, and although we do not agree with him in some points, we are acquainted with no work on medical jurisprudence that presents so much valuable information in so condensed and yet so clear a form. Dr. Ryan has freely availed himself of the labours of his predecessors in this department of knowledge, and we are glad to see the high estimation in which he holds the opinion of our countryman, Dr. Beck; who, to use Dr. R.'s words, and which must be echoed by all who have studied the "Elements of Medical Jurisprudence," "is an ornament to his profession, and an honour to his country." It is one peculiar merit of Dr. Ryan's, that he frankly acknowledges his obligations to his fellow labourers in science, and that he never avails himself of the observations of others without giving them due credit; this is so rare in the present book-making age, that we are happy in holding up our authors scrupulous attention in "rendering unto Cæsar the things that are Cæsar's," as an example by which we might all profit.

The work is divided into three sections: the first is devoted to the consideration of the important subject of medical ethics—a subject so intimately con-

nected with the standing and dignity of the profession, that it becomes a matter of astonishment that it has been so wholly overlooked of late years; "there never was a period in medical history in which ethics were so neglected and violated as in this 'age of intellect,' nor the dignity of the science so degraded and disregarded." Dr. Ryan first gives a sketch of medical ethics of Hippocrates and his eminent successors, and the influence they exercised on the profession; he then gives the ethics of the middle ages, which are followed by a consideration of those of the present day, as laid down by Gregory, Percival, &c. These chapters will amply repay an attentive perusal, and if the precepts contained in them could be universally adopted, it would save us from the pain and disgrace of witnessing those constant squabbles among members of the profession which tend so powerfully to depreciate its standing with the public.

The two next chapters relate to the laws of the medical profession which are in force in Great Britain and Ireland; many of these being mere local enactments, possess but little interest to the American reader; others, however, depending on common law, are equally in force in this country, such as the liability of witnesses, &c.

In the next chapter Dr. Ryan begins the discussion of questions of medical jurisprudence, by such as relate to disqualifications for marriage; these are either physical, moral or accidental, and the author justly deduces the following general principles, "1st, That to declare either sex impotent, it is necessary that certain physical causes be permanent malformations, or accidental lesions, evident to our senses. 2d, These causes when rigorously examined, are few in number. 3d, The moral causes ought not to be taken into consideration, as they would serve as an excuse for an individual accused of impotence." The chapter on pregnancy which succeeds, though short is clear, and the positions well laid down. Dr. Ryan appears to agree with Kennedy and others, that auscultation is the only infallible test of pregnancy. The next points discussed are those of abortion and delivery, on which as may be supposed, nothing new was to be said. In chapter XI. the author enters on the difficult subject of infanticide; with this part of Dr. Ryan's work we have not been as well satisfied as with the others, it is too short, and does not point out with sufficient clearness the numerous fallacies attendant on all the proposed tests of the life or death of the infant; in this part of his work he has made ample use of Dr. Beck's treatise, and which he appears to consider as the highest authority on the subject.

The chapter on rape deserves attention; Dr. Ryan has adopted the opinion now beginning to be generally held, that there are no positive signs of virginity, as physical proofs are equivocal and may all be wanting, without giving rise to a well-grounded suspicion against the female.

The author next discusses those medico-legal questions, that relate to attempts against health or life. This is done clearly and perspicuously, though we think he has omitted some important facts that might have considerable influence on our decision. The observations on homicide by asphyxia, in which the author includes hanging, submersion, the introduction of foreign substances into the trachea, and the effects of the non-respirable gases, of course contain little that is new; those, however, on the poisons are excellent, and present a condensed view of all the recent information on the subject. We are glad to

see that Dr. Ryan makes such constant reference to the work of Christison, certainly the first authority on this intricate subject that we possess, and one that we are astonished has never been republished in this country.

As respects the chapter on adulterations of alimentary matters, we must confess that it has always appeared to us that they are of much less importance than is usually attributed to them: notwithstanding it is now many years since Accum proved that death and disease lurked in every mouthful that were swallowed, we do not find that mankind have been more cautious, or that they have materially suffered from their neglect of his peptic precepts. The adulteration of medicines is of much more vital interest, and we know that it is practised to a very great extent, not however, to the degree which Dr. Ryan states occurs in England; where he says it is almost impossible to procure a single article in the Pharmacopœia in a genuine form. His remarks on the state of charlatanism, we are sorry to admit, are but too applicable to this country, "where the most ignorant and illiterate persons are allowed, with reckless indifference, to assume the titles and privileges of educated medical men, to the destruction of human health and life." What encouragement is held out to the regular physician who has sacrificed health and property to the study of his art, when he finds himself superseded by some inspired pretender; when he sees the preparations of an illiterate nostrum-monger, recommended to the world under the sanction of some of the highest names in the profession? "But unhappily," says an able writer, "it appears that John Bull and his family are not gifted with the power of being beware of hypocrisy, advertising charlatans and empirical nostrums; but through their proneness to gullability and love of the marvellous, the trade of quackery is daily increasing, and some hundreds of quacks swarm in every corner of the metropolis, and fatten on the murders which they are constantly perpetrating with their poisons." These remarks, though intended for London, are but too true of every large city in the United States, where wholesale quackery is full as rife as in any part of the world.

The next chapter on mental alienation, although very short, contains a valuable summary of legal decisions on this intricate medico-legal question. The shades and degrees of insanity are so various, and the definition of insanity as given even by the best authorities so vague and discrepant, that there are no cases in which a medical witness is called on for his opinion, that demand more circumspection and close observation. In fact, as is observed by Mr. Amos, "the degree and kind of insanity, which renders a person responsible for criminal acts, is a subject upon which it is impossible to give precise and scientific notions."

The chapters on simulated and disqualifying diseases are much too brief to be of much service. When a medical man is called upon to examine individuals supposed to be labouring under certain diseases, the existence of which would exempt them from certain public duties, or screen them from merited justice, he would grossly violate his obligations to the public, if he impeded the administration of the laws; in these cases he is not to be influenced by mere humanity, but is bound to give a correct decision according to the best of his skill and knowledge.

The last chapter on medical evidence is very valuable, and though not equal to Dr. Smith's Treatise, will amply repay an attentive perusal.

In the foregoing short analysis of the contents of Dr. Ryan's volume, we have merely wished to apprise our readers of its contents, and the plan on which it is arranged; neither time or space have permitted us to enter on a review of the author's opinions, nor to dilate on the various questions of which he treats. An American edition of it, with such additions and alterations as may be required to adapt it to the jurisprudence of this country, would, we think, be a valuable addition to our medical and legal libraries: not as a substitute for the more extended work of Dr. Beck, but as a *catalogue raisonneé* of the various questions in which jurisprudence calls on her sister science for elucidation.

R. E. G.

XVI. *Medico-Chirurgical Transactions.* Vol. XVI. Part II. London, 1831. pp. 236, 8vo.

The portion of the sixteenth volume of the Transactions of the London Medico-Chirurgical Society, now under notice, comprises eight articles, all of which are more or less interesting. The first is an elaborate essay on omental hernia, by JOHN MACFARLANE, M. D. of Glasgow. The omentum enters into the formation of nearly all the varieties of hernia, but from its position it is less frequently met with in those which pass out through the inferior apertures of the abdomen or pelvis. It is more frequently encountered in umbilical than in inguinal, and in inguinal than in crural hernia. As it descends lower in the left than in the right side of the abdomen, it escapes more readily through the left inguinal opening than through the right; Dr. Macfarlane thinks that three-fourths of the cases of epiplocele are in the left groin. In some rare cases the omentum has escaped on both sides in the same patient, and in the same side it has been found to protrude through both inguinal and crural openings.

This disease occurs more frequently in advanced than in early life; the omentum in the latter period being small; Dr. M. has, however, seen three cases of congenital rupture in very young children, in one of which the tumour appeared to consist wholly, and in the other two, partly of omentum.

Epiplocele is less dangerous, and is usually attended with less urgent and alarming symptoms than intestinal rupture; nevertheless, in strangulated omental hernia the symptoms are often extremely severe, and Dr. M. is of opinion that it requires a more active and prompt treatment than seems to be followed by the chief surgical authorities of the present day.

The omental seldom attains the magnitude of an intestinal rupture; the enlargement of the tumour in the latter depending upon the repeated escape of new portions of bowel, while in the former it is more frequently to be attributed to the morbid enlargement of the displaced part. When the tumour is composed wholly of omentum, it usually presents an uneven surface, has a soft, doughy feel, and wants the tension and elasticity of enterocele.

"When the tumour is small, recent, and unchanged in structure, it is often ill defined; and when in this state, it occupies the situation of the inguinal opening, it is apt to be mistaken for a partial enlargement of the spermatic cord; and even in an old irreducible epiplocele, the tumour sometimes presents externally a smooth and polished surface, with the tension, and other characters of an intestinal rupture. This is especially observable when the sac is distended with fluid; but even when this complication exists, we shall seldom fail, unless

the tension be very great, in recognising the hard and irregular omentum through the interposed fluid. The same uniformly smooth surface is occasionally met with, when the omentum contained in the sac is not consolidated, or otherwise morbidly changed, but is simply enlarged, from hypertrophy or obesity. Here, however, the absence of tension and elasticity, and the peculiar flabby state of the tumour, will render the diagnosis comparatively easy.

"The omentum, particularly when loaded with fat, escapes from the abdomen more readily than the intestines, is reduced with greater difficulty, and requires a stronger spring truss to prevent its reprotrusion."

In the employment of taxis for the reduction of epiplocele, Dr. M. recommends the avoidance of all violence or force, the omentum, when too much handled, being liable to be contused and lacerated. Dr. M. states that he has seen one case in which, from continued and powerful efforts at reduction, the omentum was lacerated in several places; and in another, the protruded part was livid and ecchymosed from the extravasation of blood into its cellular texture. The contused omentum, instead of being excised, was, unfortunately, returned into the abdomen, became gangrenous, and produced death.

"On the sudden protrusion of a portion of omentum, especially when it occurs for the first time, we may expect to find the accompanying symptoms extremely urgent. Strangulation may be immediately produced, violent pain in the tumour and abdomen excited, with vomiting, hiccup, and obstinate constipation. In some cases an operation is indispensable, whilst in others the distressing symptoms gradually yield, so soon as free alvine evacuations are procured."

The reduction of an epiplocele may be prevented, according to Dr. M. 1st, by adhesion of the omentum to the inner surface of the body, or neck of the sac. 2d. By enlargement of the omentum from engorgement of its vessels; the return of the blood through the veins being sometimes impeded by pressure at the hernial aperture. 3d. By the part of the omentum which passes through the neck of the sac being compressed into a hard, smooth cord, while the portion in the sac itself remains loose and capable of being expanded. This Pott considered as the most frequent impediment to the reduction of an epiplocele. 4th. From its having undergone a morbid enlargement. Dr. M. has dissected a patient with a large epiplocele of the right side, which had been irreducible for fourteen years; the omentum was so enlarged and disorganized, that reduction could not be accomplished until the inguinal canal was divided for nearly three inches. 5th. An epiplocele may be also irreducible from adipose enlargement of the omentum, without any *morbid* alteration of the affected part, and this enlargement may be accompanied with, or independent of general obesity. General evacuation causes a considerable absorption of the fatty matter of the omentum, so as to greatly reduce the size of the tumour, and occasionally to permit its return into the abdomen.

"In irreducible herniæ of large size, whether intestinal or omental, the patient is not unfrequently subject to smart attacks of colic, with pains in the tumour, after taking a hearty meal. When the rupture consists wholly of omentum, the pain commences almost immediately after eating, but when of intestine the uneasy feelings are longer in appearing, and seem to take place only when the contents of the intestinal canal are passing through the tumour. Besides these symptoms, an irreducible epiplocele is often accompanied by severe dragging or twitching at the stomach, and by repeated vomitings; in conse-

quence of the stomach being compelled to follow the motions, communicated to the *fixed* omentum, by the intestines and abdominal muscles. These symptoms are also most urgent after meals, because, from the distention of the bowels, the stomach is pushed up towards the diaphragm, and the omentum put more completely on the stretch, and also rendered more convex externally by the pressure of the intestines."

As the stomach and colon become accustomed to the restraint arising from this unnatural fixture of the omentum, we occasionally find that the urgent symptoms gradually diminish, or even altogether disappear; a result, however, of less frequent occurrence, according to Dr. M. than we should be led to expect from the assertions of writers.

"When the distention of the abdomen is moderate, an irreducible epiplocele may cease to produce any disagreeable symptoms; but when the stomach is full, the bowels constipated, and unusually distended with flatus, or fæces, when much straining of the abdominal muscles occurs, we cannot fail to meet with very distressing symptoms. It is the liability of the abdomen and its contents to great and often to sudden variations in size, even in healthy individuals, that enables us to explain the repeated recurrence of these painful paroxysms. They are generally more urgent when the omentum is suddenly, than when it is slowly, put on stretch; yet even in the latter state, they are sometimes marked and severe."

When an inguinal epiplocele has been long irreducible, the omentum sometimes becomes so altered in structure as to produce, by pressure and irritation of the spermatic cord, a diseased state of the testicle, with or without effusion into the tunica vaginalis.

"When an irreducible hernia is complicated with hydrocele," says Dr. M. "it would appear that the usual expedients for the cure of the latter disease cannot always be safely employed. The similarity of structure and contiguity of the affected parts is such, that when inflammation is excited by injection or otherwise for the purpose of producing a cohesion of the tunica vaginalis, it is liable to be propagated to the omentum or its sac, and give rise to alarming symptoms. It is also necessary to consider, before any operation is proposed, that as a preternatural collection of fluid sometimes takes place in the hernial sac itself, which may present all the characters of hydrocele, great caution is requisite in the diagnosis.

"When the omentum is fixed to the sac by extensive adhesions, or when it is neither inflamed nor irritated, it is seldom that any great accumulation of fluid takes place. Sometimes, however, the sac is so much distended, as to prove an additional source of uneasiness to the patient. Pott was repeatedly obliged to puncture the sac and evacuate the fluid, in order to remove the inconvenience arising from the enlargement and weight of the scrotum; and when this was neglected, gangrene was sometimes produced.

"To distinguish, therefore, between hydrocele complicated with an irreducible epiplocele, and a collection of fluid in the hernial sac, is of some practical importance. In the former, the fluid gradually accumulates in the most depending part of the scrotum, and extends upwards, leaving, as in the above case, a separation more or less marked between the two tumours. But, when the accumulation takes place in the sac, the swelling commences below the inguinal ring, and proceeds downwards, unless the hernia is scrotal, when it will begin in the same situation with hydrocele. We may expect, however, to find, when the fluid is confined to the sac, that the tense swelling is greater and higher up in the groin, and that the irreducible omentum is more completely surrounded by it than in the other form of disease."

It is the opinion of some writers, that when the local symptoms of a strangulated epiplocele are severe, and when they seem to depend rather upon inflammation than on strangulation, an operation is generally useless and frequently dangerous. Dr. M. on the contrary, asserts that an operation, even in these circumstances, may be not only necessary, but even highly successful, and he relates a case, which confirms his opinion. The operation will certainly be more successful when the omentum has protruded suddenly and become strangulated by the immediate pressure of the opening through which it has passed; but even when the disease is of long standing and irreducible, the additional size it requires when inflamed or engorged, says Dr. M. may cause over-distension of the hernial aperture, and produce such painful and injurious constriction that an operation may become necessary. In this state the symptoms are less rapid in their progress, but as soon as the tumefaction of the omentum has advanced to its greatest extent, the pressure at the ring may be as considerable, and the stricture nearly as complete as when directly produced by the escape of a larger piece of omentum than the opening can contain.

Dr. M. recommends, in opposition to Hey, Scarpa, Boyer, Richerand, and other writers, that in epiplocele, the adhesions which the neck of the omental rupture may have contracted with the neighbouring parts should be separated and the omentum returned into the abdomen whenever it is practicable.

"By permitting," says Dr. M. "the divided omentum to remain fixed to the neck of the sac, a temporary closure of the aperture will be effected, and the immediate descent of any portion of intestine or omentum for a time prevented. But, on the other hand, besides the danger of the intestines adhering to, or becoming entangled with, this fixed band of omentum, there is the risk of a second hernia forming at the same aperture. When the abdominal muscles are called into powerful action, the fixed omentum serves as an inclined plane along which the intestines glide, and by which the impetus will be more effectually directed to the old hernial aperture, than to any other part of the abdominal parietes; and, of course, the risk of a secondary tumour forming, be greatly increased."*

The permanent adhesion of the omentum to the inferior hernial openings of the abdomen, sometimes also seriously impairs the functions of the stomach and colon, the organs are dragged from their natural position, and instead of these organs gradually becoming accustomed to this restraint, it frequently happens that the symptoms adduced by it daily become more distressing, and continue to harass the patient with increasing severity during the remainder of life. Several cases in confirmation of this are quoted.

Besides, the disorganization to which the irreducible omentum is liable, is not confined to the tumour, but extends into the abdomen. Dr. M. says that he has seen one case and a preparation of the diseased parts of another, in which the omentum within the abdomen, as well as the portions contained in the irreducible ruptures, had lost every vestige of its natural structure, become exceedingly bulky, indurated, and tuberose, and produced death by exciting ascites.

Dr. M. has found the use of cold, to an omental rupture, by means of ice, snow, or evaporating lotions, more successful in promoting reduction, than other external applications.

* In omental herniæ, which have existed for years, a portion of gut not unfrequently escapes into the same sac, and becomes strangulated.

Sir Astley Cooper once succeeded in reducing an omental inguinal hernia, by applying ice for four days. In robust and healthy subjects, Dr. M. says that cold applications may be continued for days with impunity; but when the patient is old and debilitated, their continuance for a few hours may be sufficient to destroy the vitality of the parts. The effects of cold must therefore be carefully watched by the surgeon.

Before returning the cut omentum into the abdomen, Dr. M. recommends that the bleeding vessels be individually secured, with fine ligatures. Sharp and Pott often returned the divided omentum without applying a ligature, and when the excised portion is small, and not materially changed in structure, little hæmorrhage is to be expected; but when its volume is greatly increased, and morbidly altered, the vessels will be increased in the same proportion, and may require to be tied. Hey met with two cases where from not having tied the bleeding vessels before the omentum was replaced in the abdomen, hæmorrhage occurred which nearly proved fatal.

Suppuration, although rather uncommon, sometimes takes place in the sac of an irreducible omental rupture. Le Dran mentions a case in which the pus entered the abdomen and proved fatal, and Dr. M. relates another, in which, however, the diseased state was more circumscribed and the result more fortunate.

Some of the older nosologists attempted to point out the prominent and distinctive symptoms of idiopathic inflammation of the omentum, so as to establish the means of distinguishing this disease from peritonitis or enteritis. Dr. M. thinks, however, that we shall seldom succeed in distinguishing the disease during life. It is only when the inflammation commences in an omental rupture, and extends to the abdominal portion of this membrane, that we can correctly ascertain its seat and existence.

Dr. M. states that he has frequently evacuated the fluid of ascites, by puncturing the sac of an old umbilical hernia, not only with safety, but with greater facility, and less inconvenience to the patient, than if the usual situation had been selected, and the practice is sanctioned by Sir A. Cooper.

An omental rupture is liable to be mistaken for a variety of diseases.

"When an intestinal hernia contains solid fæces, it presents some of the most prominent characters of an epiplocele. The history of the disease will, however, enable us to arrive at a correct conclusion.

"Hydrocele of the spermatic cord, varicocele, &c. have also some resemblance to an inguinal epiplocele. It has likewise been mistaken for a common hydrocele.

"Adipose tumours are sometimes attached to the sheath of the spermatic cord, immediately exterior to the inguinal ring; but more frequently, they are formed within the abdomen, in the cellular texture which connects the peritoneum to the neighbouring parts, and are protruded through the ring. They thus occupy the position, and possess all the external characters of an inguinal epiplocele; and often render a diagnosis impracticable.

"When small in size, they can be reduced with facility, and prevented from again escaping, by the application of a truss; but when large, or indurated, they continue irreducible, and it is in this state they are likely to engage the attention, and baffle the skill and tact of the surgeon. Pelletan relates, in his "Clinique Chirurgicale,"* several curious cases of such tumours.

"In nearly all the recorded cases, where the adipose tumour originated with

* Tome III. p. 33, &c. Paris, 1810.

the abdomen, the peritoneum was pushed before it, so as to form a sac analogous to a hernia. But, in the only case of this kind, which I have had an opportunity of examining, the tumour was found to have originated in the cellular texture exterior to the peritoneum, close to the outer edge of the internal inguinal ring, and to have descended along the cord, and formed, externally, a large pyriform tumour, without being invested by a peritoneal sac. This tumour, which was irreducible, was supposed to be an epiplocele, although not accompanied by any of the symptoms usually attendant on this disease. This opinion was confirmed by the existence, at the same place, of an intestinal hernia, which could be easily reduced, and retained within the abdomen.

"After death, which was occasioned by pneumonia, the peritoneum was found dragged through the inguinal canal, by the descent and weight of the tumour, so as to form a sac, into which the intestine passed. The appearance of the tumour, when exposed by dissection, and its texture, when divided, so closely resembled the adipo-fibrous degeneration to which the omentum is occasionally subject, as to render it impossible to distinguish between them.

"The nature of the disease was only correctly ascertained, by finding that the tumour was exterior to the hernial sac, and that the omentum was unconnected with the tumour, and occupying the upper part of the abdomen."

The succeeding article, entitled, "*Some considerations with respect to the blood, founded on one or two very simple experiments on that fluid*, by BENJAMIN G. BABINGTON, M. D., is an extremely interesting one. The principal experiment to which Dr. B. alludes, is the following:

Experiment I.—"Let blood be drawn in a full stream from the vein of a person labouring under acute rheumatism, in a glass vessel which should be filled to the brim. By close inspection a colourless fluid will be immediately perceived around the edge of the surface, and after a rest of four or five minutes, a bluish appearance will be observed forming an upper layer on the blood, which is owing to the subsidence of the red particles to a certain distance below the surface, and the consequent existence of a clear liquor between the plane of the red particles and the eye. Let now a spoon previously moistened with water, be carefully immersed into the upper layer of liquid by a gentle depression of one border. The liquid may thus be collected quite free from red particles, and will be found to be an opalescent and somewhat viscid solution perfectly homogeneous in appearance. By repeating the immersion we may collect this fluid in quantity and transfer it to another vessel. That which I employed, is a bottle holding about 180 grains, of globular form, with a narrow neck and perforated glass stopper.

"The solution with which the globular bottle is filled though quite homogeneous at the time it is thus collected, is found after a time to separate into two parts, namely, a clot of fibrine which has the precise form of the bottle in which it was gathered, and a clear serum possessing all the usual characters of that fluid."

This experiment shows that buffed blood consists of only two constituents, the red particles and a liquid, which Dr. B. terms *Liquor Sanguinis.*

It was long ago observed that what is called inflamed blood, coagulates slower than healthy blood, and that the last portions of blood drawn from an animal bleeding to death, coagulated quickest. The following appears to be the immediate cause of a buffed crust.

"The blood consisting of liquor sanguinis and insoluble red particles, preserves its fluidity long enough to permit red particles, which are of greater specific gravity, to subside through it. At length the liquor sanguinis separates, by a general coagulation and contraction, into two parts, and this phe-

nomenon takes place uniformly throughout the liquor. That part of it through which the red particles had time to fall, furnishes a pure fibrine or buffed crust, while that portion into which the red particles had descended, furnishes the coloured clot. This in extreme cases may be very loose at the bottom, from the great number of red particles collected there, each of which has supplanted its bulk of fibrine, and consequently diminished its firmness in that part. There is, however, with this limitation, no more fibrine on one part of the blood than another."

The above account of the cause of the buffed surface on blood, affords us an explanation of the well known fact that this phenomenon is influenced by the shape of the vessel in which the blood is received. The space left by the gravitation of the red particles, bears a proportion to the whole perpendicular depth of the blood, so that in shallow vessels scarcely any buffed coat may appear, where the same blood in a deep vessel would have furnished such a coat of considerable thickness. Dr. B. moreover asserts that the quantity of crassamentum is also dependant, within certain limits, on the form of the vessel employed. If this be shallow, the crassamentum will be abundant, if approaching in form the cube or sphere, it will be scanty. This difference is owing to the greater or less distance of the coagulating particles of fibrine from a common centre, which causes a more or less powerful adhesion and contraction of these particles. Dr. B. is, we believe, the first to notice this fact, and there are perhaps few relating to the phenomena of venesection, of more practical importance; since blood is said to be thick or thin, rich or poor, in reference to the quantity of crassamentum it contains, and views of a disease are founded on these supposed conditions, which after all depend not on the blood itself, but on the vessel into which it is received.

To obviate the objection which may be urged against a general conclusion drawn from the experiment just alluded to, that it was made upon blood in a diseased state, Dr. B. received some healthy blood in a tall glass vessel half full of oil, which enabled its red particles to settle more quickly than would otherwise be the case. This blood was found to have a layer of liquor sanguinis, which formed a buffed coat, whilst a portion of the same blood received in a similar vessel, having no oil, had no inflammatory crust, as it is called. Hence it appears that healthy blood is similarly constituted as blood disposed to form a buffed crust, the only difference being that the former coagulates more quickly than the latter.

The first experiment also shows that the liquor sanguinis is an uniform homogeneous fluid, and no mere mixture of fibrine and serum, for as already observed, the clot formed by the liquor has the precise shape of the vessel in which it is received; hence the coagulation takes place uniformly from every part of the fluid, and the uniform density of the clot confirms this conclusion.

Dr. B. is also led to believe that fibrine and serum do not exist as such in circulating blood, but that the liquor sanguinis when removed from the circulation, and no longer under the influence of the laws of life, has then, and not till then, the property of separating into fibrine and serum. This separation which may be considered a death of the blood, may, under disease, take place within the body, but never, he thinks, consistently with healthy action.

It follows from these views that there is no such animal fluid as coagulable lymph.

"The liquor sanguinis," says Dr. B. "cannot with propriety be so considered, for it is essentially a fluid, and if under certain circumstances it separates into two parts, only one of these (fibrine) is coagulable, nor can I admit that this one part, considered by itself, previously existed in a fluid state, for in order to its fluidity it was necessary that the two constituents should be so united as to form one compound. There is, therefore, no better reason for affirming, that fibrine exists in a fluid state in liquor sanguinis, than for affirming that muriatic acid exists in a solid state in muriate of ammonia. The salt, indeed, is solid, of which muriatic acid forms one ingredient, but the ammonia is essential to the solidity of the compound. In like manner, the compound is fluid, of which fibrine forms one ingredient, but the serum is essential to its fluidity.

"Nor is it an unimportant error to suppose a fluid secreted from the blood which has the property of becoming converted into a solid, for we are thus led to overlook altogether the fluid portion of the compound with the albumen contained in it, which always forms by far the greater portion of the secretion."

The fact of circulating blood consisting of a homogeneous liquor and red particles, has led Dr. B. to the belief that when an effusion of serum takes place, we shall generally, in some neighbouring part, find a corresponding deposition of fibrine. Dr. B. does not believe that serum is a secretion intended for the lubrication of closed membranes, but says that such belief is a fallacy founded on appearances observed after death, which do not exist during life.

"When we recollect," says he, "how quickly the separation of liquor sanguinis into serum and fibrine takes place out of the body, we ought not to be surprised to find, though it be but a few minutes after death, or even before it, if dissolution be gradual, a serous effusion into cavities which, during health, could not be destined to contain any fluid.

"I doubt the fact, however, that such membranes have the power during health of secreting serum, by which term I mean a fluid essentially containing albumen; or that any thing more passes from them than an aqueous halitus, or vapour; and I therefore doubt the propriety of giving them the denomination of *serous* membranes. Under morbid defect of vitality they may and do suffer serum to exude from them containing more or less albumen, and in such cases we shall usually find effused into some neighbouring part the corresponding fibrine, which with the serum in question went to form the liquor sanguinis. Such membranes may pour forth the liquor sanguinis itself, in which case we shall find the separation to have taken place in the cavities which they line. Gelatinous masses will gravitate to their lowest parts, or flakes, or shreds of fibrine will be diffused through the fluid.

"Wherever this gelatinous formation exists, it is owing to the presence of fibrine, since, as is well known, albumen never assumes a gelatinous form, under the ordinary temperature. We may indeed with albumen, when mixed with water and heated, exactly imitate this appearance of fibrine, and form substances of all degrees of gelatinous consistence; but this only serves to confirm the belief that fibrine, in a diluted state, may put on a gelatinous appearance on coagulation. I have stated that closed membranes may pour forth serum or liquor sanguinis. They may also, under high excitement, pour forth blood itself. There is, therefore, no better reasons for calling such membranes serous, than for calling them fibrinous or sanguineous membranes. The secretion of each is morbid, and we ought not to designate parts from the morbid actions which may be set up in them."

The examination of fluids effused into closed cavities, throws much light upon this subject, and Dr. B. has offered several illustrations derived from that source. These are scarcely susceptible however of analysis, and our limits will not permit us to insert them entire.

Before closing our notice of this interesting paper, we must allude to the great resemblance between liquor sanguinis and chyle. The principal difference indeed existing between them is the red particles in the former, which it is evident are not derived from the latter, and that we must seek for their formation in some of the viscera connected with the circulation. The spleen has been looked upon as their secreting organ, and it may be interesting to state, that Dr. B. has examined with the most accurate and powerful microscopes the blood of a dog, whose spleen had been removed several months previously, and on comparing it with that of a healthy animal, it did not appear deficient in the quantity of its red particles.

The third article is *on the symptoms attending the change of a circumscribed popliteal aneurism into the diffused state*, with some particulars of an aneurism of the aorta which burst into the œsophagus. The author of this paper, SAMUEL COOPER, Esq. is of opinion that there are certain particulars relating to the change of an aneurism from the circumscribed into the diffused state, which require greater attention than they have yet received, and that without this attention the obscurity sometimes prevailing in the diagnosis will be the occasion of many errors in practice.

"It is not enough," he says, "to be informed, that when the aneurism becomes diffused, its pulsations are reduced, or stopped, and the limb painful, with an alteration in the shape of the swelling, coldness of the foot, and a sensation, experienced by the patient, of something having given way in the limb. Frequently, there is rather a complaint of numbness, than of pain; and if the aneurism be large, the compressed and altered state of the popliteal nerves, and the effect of distention on the branches of the cutaneous ones, will fully account for the general torpidness of the whole leg. With respect to a sudden change in the shape of the swelling, whether this symptom occur or not, will depend upon the situation of the opening formed in the sac, the extent and place of the extravasation, and the degree of œdema affecting the integuments. If the sac give way at a superficial point under the skin; the blood be effused in considerable quantity; and the limb be not already much enlarged from the œdematous state of the integuments; there will of course be a very manifest alteration in the shape of the swelling, and an evident and sudden extension, or increase of it. But, in the opposite conditions, that is to say, when the sac bursts at a very deeply seated point, when the blood is consequently injected into the cellular membrane between the muscles, and under the fascia; and when the integuments are already considerably thickened and swollen; a vast quantity of blood may be extravasated, without any remarkable change in the figure of the aneurismal tumour, or any very palpable increase in the tension and magnitude of the leg. As for the patient's having felt something break, or give way in the limb at the moment when the sac burst, it is a kind of information not constantly to be obtained, because the rupture is sometimes very limited at first, or may happen during sleep; and when the sensation is declared to have been experienced, little reliance can be placed upon the account, inasmuch as patients, with popliteal and other external aneurisms, frequently complain of cramp, and sudden attacks of extraordinary feelings in their limbs, without any change of the disease from the circumscribed into the diffused form.

"When the sac of an aneurism has burst in the foregoing manner, the propulsion of blood into it from the heart, can evidently no longer have the effect of producing a full and sudden distention of it, as more or less of that fluid will

either escape from it into the cellular membrane, or collect in one mass out of the original sac. Sometimes, however, when the breach in the sac is under a certain size, the pulsations do not completely stop at first; their strength is only reduced; and several days may elapse before there is a total cessation of them. Now, unless we suppose, that the opening in the sac enlarges after its first formation, and that the subsequent decline and stoppage of the throbbing of the tumour, can be explained on this principle, we must look into other circumstances for an elucidation of this interesting fact.

"In a case of the preceding description, several causes combine to render the pulsations weaker and weaker, and at length to extinguish them.

"1st. The more or less impeded state of the circulation, that takes place in the limb, as soon as a considerable quantity of blood has been injected into the cellular tissue. And, in order that the extravasation may attain the degree necessary for the full production of this effect, a certain time is obviously requisite; the limited size in the opening of the sac, and perhaps also sometimes the particular situation of it, away from the main current of blood, preventing the effusion from becoming all at once copious and extensive. By degrees, however, the quantity of blood in the cellular membrane increases; and then its pressure not only creates a great deal of irritation, but actually interferes with the regular supply of blood and nervous influence to the limb. Hence, the alarming fall of temperature in the foot, and the well known tendency to gangrene, consequent to the change of a circumscribed popliteal aneurism into a diffused one.

"2dly. Another cause, that has a powerful effect in gradually putting an end to the pulsations, is the increase in the quantity of coagulated blood and fibrine in the sac; the inevitable result of the stream of blood through it becoming more and more retarded, in proportion as the obstruction of the circulation in the leg is augmented."

Mr. Cooper illustrates these remarks by a very interesting case of popliteal aneurism, in which there was a rupture of the sac without any change in the shape of the tumour, diminution of its firmness, or material increase in the swelling of the leg; gangrene resulted, and amputation of the limb became necessary.

In popliteal aneurisms of considerable size, there is always peril in delaying the application of a ligature to the femoral artery; for although there may be no immediate danger of the skin giving way, and of the patient losing his life by hæmorrhage, the sac is apt to burst, and the disease to change from the circumscribed into the diffused state, with all the disadvantages and risk inseparable from the latter condition.

"By delay we suffer the muscles of the knee to become permanently injured in their organization; a prodigious sac to be formed, which will require a great length of time to be diminished and absorbed; the popliteal nerve to be converted into a thin expansion, not resembling its original structure; the popliteal vein to be obliterated; and the condyles of the femur and head of the tibia to be in part destroyed by the pressure of the disease."

The most remarkable points in the case of aneurism of the aorta, is that the basis of the scapula was displaced by the aneurismal tumour, and that the patient lived nearly eight weeks after a communication had been formed by ulceration between the aneurismal cavity and the œsophagus, and followed the laborious occupation of a wheelwright during a considerable part of this time.

In the ninth volume of the Society's transactions a case is recorded of axillary aneurism in which the subclavian artery was secured above the clavicle, by

the late Professor Post of New York, the first we believe of the kind in which the operation succeeded. In the thirteenth volume of the same work a similar case, in which that operation was successful, is related by Mr. Key, and in the volume now under notice, two cases are given in which the operation has been attended with equally fortunate results, one by Mr. Crossing of Devonport, the other by Mr. Mayo.

Mr. Crossing's patient was a stout, muscular man, forty-six years of age; the tumour was situated immediately under, and closely in contact with the right clavicle, extending to the cartilage of the fifth rib, stretching into the axilla, and over the point of the shoulder. It has a very tense, elastic feel, and the pulsation is generally rather obscure, but at other times is so distinct as to be seen at a considerable distance from the patient. The tumour is not compressible, but the pulsation can always be stopped by pressing on the artery above the clavicle. The arm from the shoulder to the extremities of the fingers is swollen to an enormous size; is benumbed, and has lost all power of motion. The pulsation at the wrist cannot be felt; and the arm is kept nearly at a right angle in consequence of the magnitude of the swelling in the axilla, the pectoral muscle and integuments covering it being stretched to the greatest extent. He is always in pain, and at times to a most agonizing degree; is unable to lie back in the bed, but is continually in a sitting position, with the arm supported on a pillow, and the body bent forward. His countenance is marked with great distress.

The operation was performed June 23d, 1830, in the following manner. The patient was seated in an arm chair, the head directed to the left side. The integuments over the clavicle being stretched upon the chest, Mr. C. commenced his incision near the sternal attachment of the mastoid muscle, and cut freely on the bone for about three inches and a half, thus dividing at once the integuments and platysma myoides. . The parts being now allowed to retract, left the lower margin of the incision half an inch above, and running nearly parallel with the clavicle, and exposed the jugular vein to a considerable extent, which was easily drawn aside and kept out of the way with a blunt hook. The cervical fascia was next carefully divided from the clavicular edge of the sterno-cleido mastoideus to near the extremity of the wound, which brought into view the omo-hyoideus. This muscle instead of forming a triangular space, as it does in most instances with the scalenus anticus and clavicle, ran in a line with and just above that bone. Finding this rather unusual course of the omo-hyoideus an impediment, Mr. C. passed a director under and divided it. The knife was now laid aside, and the remaining part of the operation finished with the fingers and a common director. Some loose cellular membrane, and a large fatty gland being removed, the artery was found immediately below this substance, and three considerable branches of nerves passing over the vessel, and in close contact with it. These were separated, and the ligature passed under it, and tied in a double knot. One end of the ligature was cut off close to the artery, the other left hanging from the wound, the edges of which were now brought together, and secured with one suture and adhesive straps. Nothing very remarkable occurred during the progress of the cure—the ligature was retained until the eighty-fifth day. On the 28th of December following, the

man's health is stated to be perfectly good, the circulation free and perfect throughout the limb, and nothing left of the tumour but a little thickening in the sac of the aneurism, along the edge of the pectoral muscle. There remains, however, some want of strength and sensation in the limb.

The gland described as existing in this case immediately over that part of the artery which was tied, Mr. C. thinks would prove a better guide in this operation than the scalenus muscle. Mr. C. thinks that this gland will usually be met with; he says, that in not less than a dozen subjects whom he has examined, it was found precisely in the same situation.

The subject of Mr. Mayo's case was an athletic man aged forty-nine. The tumour was seated beneath the left clavicle, was four or five inches long and three in depth, and caused violent gnawing pains about the shoulder, breast, and back, from the irregular distention it occasioned of the axillary plexus of nerves. The operation was performed on the 26th of March, 1831, and is thus described:—

"Drawing down the skin of the neck, I made an incision about three inches and a half in length on the surface of the left clavicle, extending from the insertion of the sterno-cleido mastoideus muscle to the clavicular portion of the trapezius; by this the platysma myoides was exposed, which, as well as the subjacent fascia, I carefully divided, for upon the latter many branches of the external jugular vein were found, several of which I was obliged to divide in the progress of my dissection through the cellular substance, and secure them with ligatures. I traced the edge of the omo-hyoideus muscle, traversing the upper part of the wound, and directly below it I could place my finger on the artery as it passed over the first rib, which seemed to be about an inch and a half or two inches from the surface; to this point I directed all my attention, and endeavoured to clear my way to the artery by cautious touches with the edge of the scalpel, and by tearing the cellular substance with its handle, and with a director, till at length I was able to get my nail upon the rib and then under the artery, so that after various efforts I passed a common blunt aneurismal needle under it, armed with a strong round ligature, and having ascertained that nothing else but the artery was included in the ligature, I tied it with a double knot, drawing each knot tight with the iron rings invented by the late Mr. Ramsden. The subclavian vein appeared just within and below the superior border of the clavicle, but formed no impediment to the operation; the branches of the external jugular, however, were very annoying, and kept the wound continually filled with blood, and the apprehension of wounding larger branches limited the extent of the internal wound to two inches at most. He bore the operation with great courage, though with some impatience, as it occupied rather more than twenty minutes; the pulsation ceased, and the pains in the shoulder were much relieved.

The ligature came away on the eighteenth day, and on the 2d of May the wound had completely cicatrized, the tumour had quite disappeared, and the arm was recovering its strength, but the pulse was not to be felt at the wrist.

Dr. John Vetch, in a brief communication, extols the effects of tobacco as a local application in gout and other cases of constitutional inflammation. Dr. V. says that this article is capable of alleviating in a great degree, and sometimes altogether arresting various forms of specific inflammation, particularly rheumatism and gout, and that in this last disease it also assists the parts most materially in recovering their tone and strength. He adds that it is also a valuable applica-

tion in all cases of erysipelatous inflammation, and that the only precaution to be attended to, is not to apply it to any part contiguous to the stomach, unless the production of nausea be at the same time desirable. He equally recommends it in acute migratory inflammation, attacking the testicle or sclerotic coat of the eye. Dr. V. employs the infusion made according to the London Pharmacopœia, and in many cases he says it will be well to rub the part with eau de cologne, after the use of the tobacco.

The history of a case, in which, on examination after death, the pancreas was found in a state of active inflammation, by WILLIAM LAWRENCE, Esq. constitutes the seventh article. This case is interesting, both from the circumstance of morbid changes in the structure of the pancreas being extremely rare, and also because it connects the symptoms and progress of the affection with the morbid changes which were produced.

The subject of this case was a lady, twenty-one years of age, who, about the fifth or sixth month of her pregnancy, lost her usual healthy appearance, and gradually became pallid, but without feeling unwell. About a month previous to her confinement, she had a severe attack of catarrh, with very little fever, and which yielded to the usual remedies. The morning on which her labour commenced, (the 29th of January,) she looked and felt extremely exhausted. The presentation was natural, the pains returning at pretty regular intervals, and she was delivered of a healthy child. The placenta was expelled by the contraction of the uterus five minutes afterwards, and she did not, during the whole labour, lose two ounces of blood. The night after her labour was passed without pain; she was tolerably tranquil, but got little sleep. It was evident on the third day after her delivery, that although the labour was comparatively easy, she had suffered much from the exertion. She felt so exhausted that she was constantly calling for sal volatile to smell, and occasionally to take internally, in order to prevent fainting: she sighed deeply and frequently. The least attempt to raise her head from the pillow produced a violent beating in the temples, but it subsided after a few minutes of perfect quietude. Her pulse was feeble and irritable, at about eighty-six beats in a minute. The bowels were rather relaxed.

Her state and symptoms were like those of persons who have lost large quantities of blood; and her medical attendant considered that there was a defect in the process of sanguification. Under this view of the case, which was adopted by a physician who saw her soon after her confinement, cordials and stimuli, both medical and dietetic, were resorted to. No advantage resulted from this plan, and another physician was called in, who recommended calomel and opium, on the idea that inflammation had taken place in the chest, and that effusion had probably been the consequence. Mr. L. saw her about thirty-six hours before death, when no hope of recovery could be entertained. She was excessively pale, with a rapid, feeble pulse, hurried breathing, some fulness and uneasiness on the right side of the abdomen.

Mr. L. says that he afterwards learned that this lady had been most singularly troubled by thirst during her pregnancy, and that her mother, alarmed by her drinking cold fluids in large quantity, had represented to her that she feared

the circumstance might prove injurious to the child. She had also suffered much from pain in the epigastric region, which was sometimes so severe as to oblige her to retire to her own apartment. In mentioning this circumstance, her mother drew her hand across the abdomen in the seat of her daughter's sufferings, and she pointed exactly to the situation of the pancreas.

She however declared to her physicians, who attended during and after her confinement, and who examined her abdomen several times to discover if there was tenderness there, that she felt neither pain nor soreness on pressure.

Examination thirteen hours after death.—"The body had not lost its heat; the internal parts were warm to the touch. The skin was universally and extremely pale. No blood escaped on making the incisions necessary for exposing the abdomen and thorax and for sawing round the skull.

"The membranes lining the abdomen and thorax, and the viscera contained in those cavities, excepting the pancreas and spleen, were extremely pale and almost bloodless. The appearance was like that observed in persons who have died of hæmorrhage, or under the state described by the term anemia. The liver and kidneys were pale, and the several portions of the alimentary canal quite white, without any traces of blood in them.

"The heart was pale and rather large; its cavities and the contiguous large vessels contained some fluid of watery consistence, about the colour of red wine, and small portions of soft coagula. The coronary vessels contained no blood. The muscular substance of the heart was pale and rather flaccid: the structure of the organ in other respects was natural. The lungs were healthy, except that frothy fluid escaped on cutting into their posterior part. The cellular texture around the pancreas and duodenum, the great and small omentum, the root of the mesentery, the mesocolon and the appendices epiploïcæ of the arch of the colon were loaded with serous effusion. The fluid, which was transparent, bright yellow, and of watery consistence, ran out in large quantity on cutting into the parts above mentioned, which were distended in some places to the thickness of two or three inches.

"The pancreas was throughout of a deep and dull red colour, which contrasted very remarkably with the bloodless condition of other parts. It was firm to the feel externally; and when an incision was made into it, the divided lobules felt particularly firm and crisp. The texture was otherwise healthy. The part was left wrapped up in a cloth for nearly forty-eight hours after its removal from the body, the weather being then very cold. At the end of this time the hardness was gone, and the gland even appeared rather soft.

"The spleen was rather large and turgid, livid externally, brownish-red internally, and somewhat soft in texture.

"The surface of the dura mater, covering the cerebral hemispheres, was lined in the neighbourhood of the falx, with a very thin, soft, and almost mucilaginous layer of light red tint; it could be scraped off with the handle of the knife, leaving the membrane of its natural appearance. There was slight serous infiltration of the pia mater. The blood-vessels of the brain were moderately full. The distention of the cellular membrane by serous effusion in this instance was analogous to the œdematous swelling which often occurs round other parts when actively inflamed.

"The pancreas is not unfrequently found after death, as it was in this case, preternaturally hard; and I suppose that the gland has been in this state in the numerous instances, in which we hear and read of its having been scirrhous. Although I do not know on what this hardness depends, I have never considered it as a morbid condition; because it occurs in individuals who have died of other diseases, without any symptoms referable to the pancreas; because the structure of the part is perfectly healthy in all other respects, and because the hardness soon disappears after death, as it did on this occasion."

The volume concludes with some pathological and practical researches on uterine inflammation in puerperal women, by Robert Lee, M. D. We shall make this the subject of a special article in a future volume.

XVII. *A Treatise on Indigestion, with Observations on some painful complaints originating in Indigestion, as Tic Douloureux, Nervous Disorder, &c.* By Thomas J. Graham, of the University of Glasgow, and of the Royal College of Surgeons, London, &c. First American, from the last London edition, revised and enlarged, with *Notes and an Appendix, containing Observations relative to the Modes of treating Dyspepsia,* lately adopted and recommended by Dr. Avery, Mr. Halstead, and others. By an American Physician. Philadelphia, Key & Mielke. Oct. pp. 206.

The fruitful topic furnished by dyspeptic ailments, has, we think, been very judiciously treated in this volume of Dr. Graham's. The author's attention is not only directed to the best curative means, but to the exposition of the erroneous views that have been heretofore too generally inculcated in regard to certain affections often complicated with indigestion. He dwells particularly upon the two most prominent errors of the day, namely, the mistaking severe disorders of the stomach and intestinal canal, for disease of the liver, and the employment of large doses of mercurials for the cure of supposed liver complaints. He wishes to be understood as not inveighing against the proper use, but only against the *abuse* of mercurials, this last being an evil of magnitude in British practice, and we think there is reason to believe, of still greater extent in that of America.

Dr. Graham maintains that the maladies generally denominated "*liver and bilious complaints,*" proceeding from a supposed disordered condition of the liver, are not in any degree so frequent or so formidable as disorders of the alimentary canal. This he thinks sufficiently demonstrated by enlightened anatomists whose numerous and close dissections were not instituted for the purpose of serving any particular views or doctrines. The investigations of Louis, Broussais, Andral, Abernethy, Howship, Marshall Hall, &c. are adduced in support of the correctness of his opinions. Whilst upon the subject of the fallacious character of the symptoms ordinarily reckoned the certain indications of disease in the liver, he gives us the following account of a late eminent British practitioner.

"The late Dr. James Curry, (de mortuis nil nisi verum,) whose book on biliary concretions, together with his mode of practice, operated greatly in making diseased liver, and its supposed remedy, calomel, so very fashionable and fatal, was so wedded to his notions on this subject, that in his patients, *invariably,* the liver was considered the real source of all their ailments; and if, when labouring under stomachic irritation and disorder, they complained of pain in the left side, in the region of the stomach, he would endeavour to persuade them they were mistaken, and that it certainly was in the right! If he could not bring them over to this belief, it was his custom to say, 'Ah, I shall bring it there then!'"

He subsequently informs us in another part of his treatise, that the same Dr. Curry was in the habit of putting his hand to his right side, and saying, he was assured there was a very small portion of liver left there.

"Some might think," observes Dr. Graham, "it was not wise in him to make so frequent a confession of this kind, since, if a man could live for years in tolerable health, (which was his case,) with only a very small portion of liver, and that probably in a state far from healthy, the conclusion generally drawn from thence would be in no small degree unfavourable to the doctor's opinion, of the supreme importance of the healthful actions of this viscus, and of the absolute necessity of resorting to the free use of calomel in its derangements. However, he was totally mistaken in his own case, for after death the liver was found to be quite sound! a circumstance not much in favour of his discriminating powers. Yet authors are not wanting, who speak of the practical success of this physician, attributing it to his superior acquaintance with hepatic disorders. To me, this success and discernment appear equally problematical."

Dr. Graham distinguishes four different kinds of disorders of the digestive organs, each having its seat principally if not exclusively in a particular organ, though one species or variety seldom exists for any length of time, without producing an unfavourable change in the neighbouring parts. In one variety the stomach is the seat of the affection, in another, the small intestines are involved, in a third, there is faulty or deficient biliary secretion, whilst in the fourth, the large intestines are most affected, the derangement existing there being sometimes the single cause of much local and general disturbance and distress. These, one and all, exert an immediate tendency to prevent the regular and perfect digestion and assimilation of the food.

The discriminating symptoms of each of these varieties are pointed out with great distinctness, and after this we have the causes and treatment of indigestion successively dwelt upon with great ability. The views entertained by Dr. G. in relation to the pathology and treatment of indigestion differ essentially from those of most writers upon the subject, and we regret that we have not space in our bibliograph for even such a sketch as might gratify the general inquirer.

An ample appendix by the American editor adds some of the latest intelligence relative to dyspeptic complaints. The treatises particularly noticed are "the Dyspeptic's Monitor," "Abercrombie on Diseases of the Stomach," &c. and Mr. Halstead's "New method of curing Dyspepsia." The productions of the two New York authorities, Dr. Avery and Mr. Halstead, are examined at considerable length, and the mechanical process constituting the new method of the latter, very accurately described. G. E.

XVIII. *Remarks on the History and Treatment of Delirium Tremens.* By John Ware, M. D. Fellow of the Massachusetts Medical Society. Boston, 1831. pp. 61. 8vo.

This interesting and well written treatise appears to have been originally published in the Transactions of the Massachusetts Medical Society, a work we have not had an opportunity of seeing, but which is an important addition to our medical literature if its contents tally with the specimen before us.

The subject of delirium tremens has necessarily attracted much attention from practitioners, and especially from such as are attached to public institutions, in which unfortunately there are but too frequently cases of this disease, and we offer no apology to our readers for again drawing their attention to it, being

fully convinced, to use the words of our author, "that every subject in science, and more particularly, every subject in a science of a nature so peculiar as that of medicine, requires not only careful and repeated observation, but the careful and repeated observation of many individuals, in order to its thorough illustration."

Dr. Ware has had ample opportunities of studying the disease in question, as he states that his remarks are deduced from nearly one hundred cases, of which seventy-seven occurred in private practice, and the remainder in the Boston Alms-house; these were cases in which the disease was fully developed, as he does not include that far greater number of instances of incipient disease so common among drunkards. In his appreciation and treatment of these cases, Dr. Ware, we are glad to perceive, has followed the dictates of his own judgment, instead of blindly following one or the other of the favourite modes of cure. Most writers on this disease seem to think that although no two cases are precisely similar, that these differences need not lead to any corresponding difference in the mode of treating them; the result of Dr. Ware's observations has led him to a belief, that what are considered as the most peculiar and prominent symptoms, are not those which are really of the most importance, but that the practitioner is to be as much governed by the general situation of the patient, the character of his attack, and the state of his constitution, as in other diseases. As is well known to every one that has seen much of this complaint, the susceptibility of drunkards to it is exceedingly various; in some it occurs on the slightest derangement of their functions, whilst in others the severest attacks of disease may take place without it making its appearance; nor does it appear to depend on the degree of indulgence in spirituous liquors, or the period of time during which they have been used. At the same time, as is remarked by Dr. Ware, those who become intemperate early in life are more subject to it than those who acquire the habit gradually, and have not used spirituous liquors to excess until they have reached maturity.

Dr. Ware combats the common opinion, that delirium tremens is in most cases immediately occasioned by an abstinence from ardent spirits, and states, that in a large proportion of instances this had nothing to do with it. This agrees with our own experience; as we have seen numerous cases in which the disease appeared in the midst of the most excessive indulgence, as well as under the other circumstances to which he alludes. It may make its appearance suddenly, or be ushered in by a train of premonitory symptoms, of various degrees of violence, and is peculiarly liable to occur in those drunkards who suffer from irritability of the stomach and frequent vomiting. We are sorry that our limits will not permit us to extract the entire account given by the author of the progress and termination of an attack of delirium tremens; it is admirably and graphically drawn up, but is too long for insertion, and would lose its peculiar merits by condensation; we therefore pass to Dr. Ware's descriptions of the several circumstances, states of the system and disease, in connexion with which the delirium makes its appearance. 1st. "As the immediate consequence of a particular excess, or of a succession of excesses, in individuals not otherwise disposed to disease." This form is very common, and is vulgarly known under the name of the "horrors," and it is these cases, according to our author, that have led to the opinion that the disease was capable of being

treated with equal success by the most opposite remedies; this inference, he thinks, unfounded, as it will equally subside of itself unaided by art. 2d. It occurs "as the consequence of habitual intemperance, without being occasioned by any particular or extraordinary excess." Cases of this kind are much more severe and dangerous than the preceding, and are usually attended with more derangement of the gastric organs. 3d. Attacks of delirium tremens also occur "in connexion with other regularly-formed and well-marked diseases, or else as the consequence of injuries." In these cases it often comes on when the patient is convalescent from the primary disease, or when he is only apparently convalescent. In all the above instances, the delirium assumes the form of a regular paroxysm, terminating in sleep; but this is not always the form it assumes; when supervening on other diseases, it may present many anomalies, both in its course and symptoms.

Dr. Ware next gives a particular history of its principal symptoms; these are delirium, watchfulness, and tremor, of which the first is the most universally and constantly present; we cannot follow in detail this part of his treatise, for reasons already stated, but two or three of his remarks require to be noticed; thus, he justly observes, that an important distinction may be drawn between the watchfulness and tremors, as characteristics of the disease, "that the former occurs only in this affection, whilst the latter makes its appearance in all cases of sickness among drunkards, and is even common in many who are in their usual health." Besides these leading symptoms, others take place of more or less importance, as convulsions, some unnatural sensation in the head, variation in the pulse. "There is nothing peculiar in the state of the tongue; it is commonly preternaturally clean, red, and tremulous; but this appearance is common in diseases of drunkards." It is sometimes covered with a thin white coat, and more rarely thickly encrusted. "In general, we may regard the tongue as rather indicating the general state of the system, then the state of the disease itself." We notice Dr. Ware's opinion on this point the more particularly as the foulness of the tongue is considered by the advocates of the emetic plan of treatment as one great indication for their use. The appetite usually fails; thirst is seldom excessive; the skin is generally soft and moist from the first, and towards the close of the disease it is bathed in sweat.

"Morbid anatomy has thrown no light on the nature of that affection of the brain and nervous system, which gives rise to the peculiar symptoms of delirium tremens. Indeed, its history would rather lead us to expect, that these symptoms do not depend on any organic changes discoverable by dissection, but merely on a disturbance in their functions." In the treatment of these cases, Dr. Ware observes, that we should constantly keep in view:—"1st. By what measures may we prevent an attack of delirium tremens when it is threatened? 2d. By what measures may we arrest or alleviate the paroxysms, or carry the patient in safety through it." As regards the first of these inquiries, an attack, he says, is to be prevented by the judicious use of such general measures as will be spoken of in treating of its management. On the second question he dwells at some length, especially as to whether it is absolutely necessary to procure sleep by the assistance of art; on the benefit of natural sleep there is no difference of opinion, but authors are not so unanimous as to the paramount importance of this state when artificially produced. Dr. Ware him-

self inclines to the belief, that this artificial sleep is not so necessary as has been supposed, and that even in many of those cases where it is said to have been beneficially induced, it did not actually take place sooner than it would have done in the natural course of the disease. "I am satisfied, therefore, that in cases of delirium tremens, the patient, so far as the paroxysm alone is concerned, should be left to the resources of his own system, particularly that no attempt should be made to force sleep by any of the remedies which are usually supposed to have that tendency." We invite the attention of practitioners to Dr. Ware's arguments on this head, and although we do not agree with him as to the inefficacy of narcotics, we are ready to admit that he has staggered our belief in their absolute utility; and we have long agreed with him, that the ratio of success by the *expectant* plan has been nearly, if not fully as great as by the stimulant, or rather the narcotic.

Dr. Ware's own mode of procedure may be thus summed up. When the attack is preceded by acute disease, the course which is most likely to relieve the original affection, is most likely to prevent the delirium, or at least to make it milder. In the treatment of the delirium itself, blood-letting is of great utility when properly timed, and employed with judgment, but is by no means to be indiscriminately resorted to in all cases. Local is more universal in its adaptation than general bleeding, and in fact may be beneficially employed in a majority of instances. Emetics are useful in all cases where the digestive organs are deranged, not to hasten the accession of sleep, as at first proposed, but for their effects on the general state of the system. No particular advantage arises from purging to any extent; it is, however, desirable that the bowels should be kept open. Blisters, though reprobated by many practitioners, have been found useful in some cases. The general course to be pursued is thus detailed by Dr. Ware:—

"Where we are satisfied that the delirium is the immediate consequence of the excessive use of liquor in an individual previously in good health, no medical treatment is necessary. If the patient be left to himself, and be debarred from ardent spirits, the attack subsides spontaneously. In the worst cases no medicines can be required beyond a dose of salts, and an infusion of valerian, of wormwood, or of hops. In those cases which are preceded by some general derangement of the system without any well-defined disease, our course is to be determined by the nature of the derangement, and the state of the constitution. Where the patient is robust and vigorous, more particularly where in such a patient there has been convulsions, or severe pain in the head, general bleeding should be freely adopted, and is the most important remedy. In almost all cases, let the constitution be what it may, local bleeding may be regarded as beneficial, if not indispensable; and it is particularly called for, where there is dizziness, pain in the head, or much flushing of the countenance, with heat in the head or face. When the digestive organs have been long in a deranged state, especially when the stomach appears to be loaded with a mass of secretions which are offensive to it, and which excite it to ineffectual vomitings, a powerful emetic is of essential benefit. This may be followed by a cathartic of calomel, either combined with, or followed by some other article which will promote its full operation. It is afterwards only necessary to regulate the bowels by mild laxatives, unless some unusual symptoms arise which indicates a more active evacuating treatment."

Dr. Ware is of opinion that the common practice of allowing spirituous

liquors during an attack, is incorrect. The diet should consist of nutritious liquids. As little restraint should be exercised over the patient as is consistent with propriety and safety; patients should never be intrusted, especially during the night, to females alone, as they frequently require to be restrained from acts of violence on themselves.

The treatment after the paroxysm has nothing peculiar, and the convalescence is generally rapid.

It will be seen by the above sketch, that Dr. Ware's plan of treatment differs from the generality of modes proposed, being however more allied to the expectant than to the others. We recommend an attentive perusal of his paper to the advocates of the stimulant school, as showing that equal advantages may be obtained without the use of narcotics, &c. R. E. G.

XIX. *Treatise on the Excision of Diseased Joints.* By James Syme, Surgeon, &c. p. 163. 8vo. Plates V. Edinburgh, 1831.

The object of this work is to recommend the practice spoken of in the title, which seems to have been very successful, at least in Edinburgh, for out of seventeen cases of excision of the elbow-joint performed there, only two have terminated fatally, of which, one the author believes would have died from any operation whatever, while in the other, the disease was found so extensive as to render excision almost impracticable.

The considerations which give to this operation an advantage over that of ordinary amputation, are less ultimate hazard to the life of the patient and the preservation of the limb.

"The advantages of amputation are, that it quickly, easily, and effectually removes the disease; but these are balanced by the serious objection of its depriving the patient of a limb; and it may be added, that, though this operation cannot now be regarded as attended with much danger, it is certainly not by any means free from it. To say nothing of the ordinary bad consequences of amputation, I must here particularly notice the risk of inflammation and suppuration of the lungs, or other internal organs, which renders the result of amputation for caries so unsatisfactory, especially in hospitals. Every one who has attended the Hotel-Dieu, must have remarked the frequency of death, or rather the rarity of recovery after the removal of limbs in such circumstances; and though the evil seldom goes to such an extent in other places, I am sure all practical surgeons must be familiar with it. It is also observed that adult patients who have suffered amputation for caries, often fall into bad health, and die of dropsy or some other chronic complaint within a year or two after the operation. These bad effects seem referable with most probability to the disturbance which is excited in the system by taking away a considerable part of the body; but, whatever be the true explanation of them, there can be no doubt as to the fact of their occurrence, which ought to be carefully remembered in making the comparison that is now attempted.

The great recommendation of excision is, that it saves the patient's limb; and the benefits accruing to him from this are so important and conspicuous, that unless the objections which can be urged against it, should appear after mature consideration to be very serious indeed, we ought not to hesitate in giving it the preference. These objections so far as I have been able to ascertain, are the following:—*First*, The difficulty of the operation. *Second*, Its danger. *Third*, The useless condition of the limb in which it has been performed."

Our author asserts with much confidence, founded on his experience, that even in old cases of diseased joints, when the sinuses are numerous, the texture of the surrounding parts much vitiated by suppuration and the effusion of serum, together with a synovial membrane converted into a thick, gelatinous substance, yet the operation is effectual.

He remarks, that—

"With regard to the cartilage, it might be expected that no harm could result from leaving any part of it that remained sound; but here too the judgment of theory is reversed by experience, since it has been found that when any portion of the articulating surface was left, the disease required a subsequent operation. The cause of this is probably to be referred, not so much to any morbid process in the cartilage itself, as in the synovial membrane lining it, and in the spongy bone immediately subjacent, which has its tendency to morbid action excited by the injury sustained in its neighbourhood. The operation, therefore, essentially requires the removal of the whole cartilaginous surface.

Lastly, as to the bone, one not acquainted with the pathology of the osseous tissue, who examined the bones of carious joints after maceration, might be apt to suppose that the diseased part could not be removed without sacrificing so large a portion of the whole as to render it useless and unworthy of preservation." Mr. S. gives a representation in his work of an elbow-joint, which he amputated before adopting the plan of treatment now under consideration. In this the bones are much increased in thickness to a considerable distance from the articulation, and their surface in the whole of this extent is covered with irregular warty excrescences, which give it a rough tubercular appearance. "When these tubercles are examined more particularly, they are found to consist of a compact osseous substance, which is smooth on the surface, and perforated with numerous apertures for the transmission of blood-vessels. This is new bone, and perfectly healthy in its actions; it resembles in all respects the callus, or new osseous substance, which effects the reparation of fractures, and is thrown out in consequence of the irritation of the disease. The truly morbid or carious portion of the bone occupy merely the articulating surfaces. The external shell of the spongy bone is removed by the disease, and the cancelli are exposed to view, presenting a rough surface composed of rigid plates and spiculæ, which are white and more brittle than usual, so as to seem as if they had been subjected to the action of fire. The depth to which the bone is thus affected varies considerably, according to the origin of the disease. When the morbid action commences in the synovial membrane or cartilage, it is generally superficial: but when the inflammation is primarily seated in the substance of the spongy bone, as in the third kind of white swelling which has been mentioned, then, as has been already stated, the substance of the bone is more deeply affected, being often excavated into a hollow, which is carious over the whole of its surface. The extent of this cavity seldom, or rather never exceeds the bounds of the epiphyses, except sometimes in young subjects, where the bone has been widely altered by scrofulous action, previous to suffering the inflammation which more immediately occasions the caries. From not distinguishing between the truly diseased bone and that effused in consequence of its irritation, it appears that a much larger portion has been taken away in some of the cases of excision hitherto published than there was any occasion for. Less than a half of the portions of the humerus and femur which were removed by Moreau and Crampton, I should certainly think, so far as can be judged from the evidence of their drawings, would have been sufficient for the purpose, in which case it is plain the limbs would have been much less shortened and weakened, and the magnitude and consequent severity of the operation diminished. As already stated, the caries seldom goes beyond the epiphyses, which are all the part of the bone that the surgeon requires to

remove except in the rare cases where the bone is found to be more extensively affected; and in these it will probably be most prudent to perform amputation."

Mr. Syme considers that in regard to the hazard of this operation, it is much inferior to that from a wound inflicted on a sound joint, and that the effect of it is rather to allay than to increase irritation, for patients have been observed to sleep better the night after the operation, than for a long time previously.

"It has been said, that after the joint is cut out, the bones must either unite together, so as to render the limb rigid and unserviceable, or, if it remain moveable, the attachments of the muscles having been separated, it must be no less unfitted for use by its flaccidity and want of subjection to voluntary motion. With regard to the first of these events, I think it cannot be denied that anchylosis of the shoulder or elbow, provided the other joints remained entire, so far from rendering the limb useless, would not prevent many of its usual actions, and certainly not to the extent of permitting it to be compared, in respect of utility, with an artificial substitute. But it has been ascertained by the sure decision of experience, that true anchylosis or osseous union does not occur generally or even frequently in these circumstances; indeed, I feel authorized to say, not without very great attention on the part both of the surgeon and patient in favouring its accomplishment, particularly in preserving absolute rest; but when no such precautions are used, the union is established by means of a tough, flexible, ligamentous-like substance that permits the bones to be used with more or less freedom, according to the exercise which they are made to undergo during the process of healing. And the voluntary motion, though at first impaired, or altogether lost, owing to the relaxation of the muscles, which is caused by the approximation of their attachments, necessarily resulting from the shortening of the bones, gradually returns, and ultimately becomes as strong as ever. What seems to occasion the greatest difficulty in conceiving the possibility of recovering voluntary power over the new joint, if joint it may be called, proceeds from inattention to the fact, that muscles or tendons, when cut away from their attachments, fix themselves to the parts on which they come to rest. Thus the muscles of a stump adhere round the bone, so as to enable the patient to use it with force and freedom; and when amputation is performed through the tarsus, the *tibialis anticus* and extensors of the toes fix themselves so as to counteract the extensors of the heel. Independently of theory, however, we have here the more satisfactory assurance of positive facts; and the cases related below, will, I trust, be considered sufficient evidence to show that it is possible to save limbs by excision of diseased joints, nearly, if not altogether, as useful as before they suffered from disease.

"In addition to the arguments against excision which have now been considered, it has also been objected that the operation affords no assurance against a return of the disease, but as this objection applies equally to amputation, it need not be taken into account."

Mr. Syme recommends for this operation a long, narrow scalpel, which is to be thrust at once into the joint so as to open it freely; the parts covering the bones are then to be dissected up the proper distance, by keeping as near as possible to the bones, so as to leave the tendons and muscles. The bones are then to be sawed through with an amputating saw, which he thinks the most convenient instrument; it is, however, sometimes better to finish the division of them with the bone pliers. The hæmorrhage, though free in the beginning, seldom persists so as to require the application of ligatures, but occasionally the latter are indispensable.

"The next part of the process is to place the edges of the wound in contact and retain them together, which is best effected by the interrupted suture, unless the integuments should be so very soft as to give way under the pressure of the threads, in which case compresses of lint must be used in their stead. It is always of most consequence to unite the edges of the transverse incision, if there is one, since, if they do not heal by the first intention, they are afterwards brought together with very great difficulty, and the broad cicatrix which results from their separation is very adverse to the mobility of the joint. Some compresses of lint ought to be applied over the flaps, and then the limb being placed in a proper position, that, namely, in which it will most frequently be required after the cure is completed, it ought to be enveloped with a long roller, which affords the requisite support much better than splints or rigid cases of tin or pasteboard.

"The constitutional disturbance, for the reasons already stated, is usually very slight, and requires nothing more than some gentle purgative or slight antimonial, with spare diet and rest. The pain is usually severe for the first five or six hours, but then subsides, and seldom proves troublesome afterwards. The dressings ought to be changed ten or twelve hours after the operation, by which time the oozing of blood and serum will be at an end; and then also any inequality or gaping of the edges may be rectified by slips of sticking-plaster. Union by the first intention sometimes takes place through nearly the whole line of incision, except where old sinuses exist in its course; more frequently the adhesion is only partial and the wound opens out more or less widely, according to the degree of local inflammation, and the distention caused by blood contained within its cavity. In the course of a few days, the discharge, which was at first copious and offensive, begins to diminish; all the clots of blood issue from the wound; the swelling subsides; and the favourable change is altogether so sudden and satisfactory, as to surprise those who are not accustomed to witness the operation.

"During the cure, every means is to be employed either to keep the limb perfectly quiet, to favour anchylosis, or to exercise it in the degree and extent of mobility which will be required of it. The wound is generally very nearly healed in the course of a few weeks, but one or more sinuses continue to discharge for months or even a year or two. Small portions of bone also occasionally come away; but if the surgeon has done his duty in the first instance, he need not be under any apprehension on these accounts; and the patient will be too well pleased with being freed from the pain of his disease, and having regained the use of his limb, to feel annoyed by the trifling inconvenience which he thus experiences."

After these general observations, Mr. Syme gives a narrative of the cases where he has applied successfully this operation to the shoulder, the elbow, the knee, and the foot, the details of which it is not necessary to introduce here. Some of the recoveries were certainly of the most gratifying kind, and highly honourable to the science of surgery.

We present in extenso his methods of operating on some of the joints, as it would be difficult to give an abstract of them with justice to the author.

In the case of the shoulder, he says—

"I believe that the best way of bringing the bones completely within reach with least injury to the soft parts, is to make a perpendicular incision from the acromion through the middle of the deltoid, nearly to its attachment, and then another shorter one upwards and backwards from the lower extremity of the former so as to divide the external part of the muscle. The flap thus formed being dissected off, the joint will be brought into view, and the capsular ligament, if still remaining, having been divided, the finger of the surgeon may be passed round the head of the bone, so as to feel the attach-

ments of the spinati and subscapular muscles, which can then be readily divided by introducing the scalpel first on the one side and then on the other. After this the elbow being pulled across the forepart of the chest, the head of the humerus will be protruded, and may then be easily sawn off while grasped in the operator's left hand. The subsequent part of the operation will be conducted on the principles already explained, and as it is of course desirable to preserve as much mobility as possible, no means should be used to restrain motion further than are necessary for preventing irritation and displacement. The *pectoralis major* and *latissimus dorsi* tend to draw the extremity of the bone inwards, but this may be easily prevented by placing a cushion in the axilla."

In the operation on the elbow, he recommends the patient lying with his face downwards, on a sofa or table.

"It is always right to take away the whole of the sigmoid cavity of the ulna, which comprehends the olecranon and coronoid processes, together with the head of the radius and extremity of the humerus as high as its tuberosities. More than this, for the reason just mentioned, need not be removed; and a smaller portion would not include the whole of the cartilaginous surface, none of which, according to the general principle already explained, ought ever to be allowed to remain.

"The easiest way of accomplishing this, is to remove the olecranon in the first place; then to cut the lateral ligaments of the joint, so as to free the extremity of the humerus, and saw it off; lastly, to detach, by means of cutting-pliers, the head of the radius, and the remaining part of the sigmoid cavity. The reason for not separating at once the whole of the ulna that requires to be removed is, that, in case it is divided below the insertion of the *brachiæus internus*, its removal becomes extremely difficult. Having experienced this inconvenience in one of my first cases, I have since always proceeded as has just been described, and never found any difficulty in detaching the coronoid process after gaining the free space that was afforded by removing the olecranon.

"A simple longitudinal incision will not give sufficient access to the joint to allow of its excision, even in a sound state of the parts, much less when they are thickened and preternaturally adherent, as in cases of caries. An additional transverse cut was therefore proposed by Mr. Park, intersecting the other at right angles; but this plan labours under the double objection of splitting the triceps, and not permitting free exposure of the humerus. A method still more objectionable, on the ground of unnecessarily injuring the muscles, is to make a longitudinal incision, and two transverse ones at its extremities, so as to form two lateral flaps. By far the best plan that has yet been contrived, is that of Moreau; and though it may appear at first sight complicated and destructive to the soft parts, it is really the easiest and least injurious that can be imagined." In making the transverse cut, which should be close above the olecranon, the ulner nerve is apt to be wounded or divided; and though the facts mentioned below make this injury appear of very little consequence, as there can be no advantage in inflicting it, the surgeon ought to use the precaution of ascertaining the situation of the nerve before introducing the knife. The thickening of the limb is sometimes not so great as to prevent the nerve from being felt, but more frequently its situation can be discovered only by recollecting its position relatively to the bones; it lies close to the inner edge of the olecranon, and will certainly be cut if the transverse incision is prolonged further than this towards the internal tuberosity of the humerus. The surgeon, therefore, ought to feel for the olecranon, and introduce his knife close to its upper surface, with the back turned towards its inner margin, but somewhat nearer its radial side. Having thrust the knife down into the joint, he ought to cut transversely, with a sawing motion, so as to insure the division of the tough tendinous parts, until he arrives at the radial tuberosity of the humerus. He may then make the longitudinal incisions, which

should extend about an inch and a half upwards and downwards, without any danger whatever, as the oblique course of the nerve recedes from the line of division. Both flaps should be dissected previously to commencing the excision of the bones, and it is thus rendered much easier than when the exposure is confined to the part that is to be first removed. The hæmorrhage is generally profuse immediately on the incisions being made, but soon diminishes, and seldom persists to such extent as to require the application of a ligature; on the principle already stated, however, it is right to secure any vessel, however small, that threatens to continue to bleed. In those rare and perplexing cases, where the ulna is diseased below the coronoid process, and requires to be divided through its shaft, the interosseous artery is very apt to be divided, and must, of course, be tied. As to the humeral artery, it is always perfectly safe, being protected from injury by the whole thickness of the *brachialis internus*.

"There is a great variety in the difficulty which is experienced in performing this operation in different cases. The adhesions are sometimes so general and so firm that no way can be made without the knife; while, at other times, the suppuration has, as it were, already dissected the bones, so that the surgeon, after making his incisions, has little to do but to apply his saw and pliers for their removal. When the operation is concluded, the edges of the wound are to be stitched together; the limb ought to be half bent, and a long roller applied in the figure of eight to give it proper support."

In the operation on the knee—

"The patient being laid on his back, the surgeon should rapidly divide the integuments and other parts exterior to the joint, so as to open its cavity, and remove the patella. Having next cut the lateral ligaments, he may readily protrude the extremity of the femur, and saw off as much of it as seems necessary. He has lastly to take away the diseased part of the tibia, which can now be done very easily, by passing the knife round the head of the bone, so as to detach its connexions, and then sawing off a slice of the requisite thickness.

"During this process, the popliteal vessels may seem to be in danger, but really are not so—as the insulation of the bones is not performed until the ligaments which connect them together are divided, and no longer oppose their being separated from each other, so as to be more distant from the vessels. There is not much bleeding, but one or two of the articular branches may require to be tied. After the operation, a great difficulty has been experienced in bringing the limb into a straight position, owing to the contracted state of the flexor muscles, which still prevent extension, notwithstanding the relaxation that is afforded by shortening the bone. In this case, the surgeon must be satisfied with placing the limb on a double inclined plane, in as good a position as can be obtained by moderate force, exerted through the means of pasteboard splints. In a few days it will be found that the tension gradually diminishes, and before long allows the leg to be completely straightened.

"During the cure it does not seem proper to insure absolute rest, in order to obtain a true anchylosis or osseous union, since the very long bone that would thus be formed, besides being extremely inconvenient to the patient, by rendering the limb perfectly rigid, could not fail to expose it to a great risk of fracture, by affording long levers to forces acting at the extremities. A great degree of flexibility, on the other hand, would unfit the limb for support and progressive motion, so that, while perfect immobility and free motion ought to be avoided, a slight degree of flexibility ought to be promoted. The chief difficulty of the cure consists in preventing the tendency to bend outwards, which is always strong, and, if not counteracted, most injurious to the appearance and usefulness of the limb. The best mode of opposing this distortion consists in the careful application of splints."

We have thus presented to the reader some of the most valuable features in this publication; the operation recommended has been so seldom performed in this country, that though we cannot advocate the practice upon personal experience, yet we think it worthy of candid consideration.

XX. *Practical Observations on Prolapsus of the Rectum.* By Frederick Salmon, F. R. C. S. &c. &c. London, 1831. pp. 105, 8vo. Plates IV.

Prolapsus of the rectum, notwithstanding its frequent occurrence and painful character, has not attracted the particular attention of the profession. This may have arisen, as is suggested by Mr. Salmon, not from a want of inclination on the part of practitioners to acquire a proper knowledge of the subject, but rather their inability to obtain it, owing to the meagre accounts of it usually presented in medical writings, and to the disinclination of patients to declare its existence till fully developed, thus precluding all opportunity of studying its different stages. We were therefore glad to see the announcement of the work whose title we have given, trusting that it would supply us with such information on the subject, as would prevent our approaching this disease with distrust and uncertainty. In this expectation, we have not been disappointed, and Mr. Salmon is entitled to the thanks of the profession for the physiological manner in which he has considered the disease in question, grounding his observations on the only true basis, practical experience. Something is even gained by his denominating the complaint what it in reality is—prolapsus of the rectum; and not prolapsus ani, a name which involves a contradiction of terms.

As the work may not fall into the hands of many of our readers, we will give as full a view of the author's facts and opinions, as is compatible with our limits. He first gives a sketch of the healthy and morbid anatomy of the rectum. On the first, as he offers nothing new, we shall not dwell, except in noticing the following observation:—

"The external and internal coats are connected by cellular tissue. When the rectum has suffered from long-continued irritation this uniting medium is so much increased, that in extreme instances it forms an artificial coat between the mucous and muscular portions of the bowel. From the same causes, the internal coat of the intestine participating in the irritation, becomes thickened and elongated, so that its folds, anatomically denominated the columns of the rectum, are materially increased in size. Now both these are usually produced before any extensive prolapsus of the bowel occurs."

The mucous coat of the rectum, which is continuous with the fine skin lining the sphincter, is also more or less elongated in the early stages of prolapsus, sometimes only protruded on the discharge of the fæces, whilst at others it forms pendulous flaps, which become larger when they are irritated. As the disease advances, the natural appearance of the parts is wholly changed, and an irregular fleshy mass makes its appearance on any exertion of the abdominal muscles. In this state, its appearance varies very much, both in form and colour, giving rise in some cases to a suspicion of cancer.

The author divides the causes of prolapsus into constitutional and local; among the most common of the first of which is costiveness. The presence of accumulations of fecal matter in the rectum, not only is a cause of general and local irritation, but also by the distention they cause, induce a permanent elongation of its mucous membrane. Prolapsus may also arise from the opposite state; the violent straining attendant on diarrhœa, not only causes a distention of the sanguineous vessels of the intestines, but also induces chronic inflammation, and the thickening already spoken of. This disease may also arise

from a deranged condition of the liver, and such cases are distinguishable by the colour of the prolapsus, which presents a bluish appearance from the engorgement of the minute hæmorrhoidal vessels. It may likewise be caused by indigestion, general debility, want of due attention to diet, &c. A very fruitful source of it, is a sedentary employment, hence its prevalence among females. It may also be brought on by a protracted and violent action of the abdominal muscles, as hard riding, parturition, &c. The local causes are, any circumstance preventing a free evacuation of the rectum, as piles, calculus, &c.; in children, worms are a common source of it. It may result from local injury to the bowel; from a morbid condition of the external sphincter ani; but the most usual cause of the disease is a contraction of the gut itself, which not only offers a permanent obstacle to the action of the intestine, but also prevents a free return of blood through the part. Mr. Salmon next details the symptoms of this distressing complaint, and observes, although when in its confirmed state, they are clear and decisive, it often happens that they are so obscure at first, that the patient is not aware of the existence of the disease, attributing his difficulty in passing his evacuations to costiveness, and hence resorting to purgatives; but this difficulty soon increases, and a sensation of distention just within the sphincter is experienced, discharges of blood now begin to make their appearance, and the disease is pronounced to be piles. At this time the patient also experiences pain in one or both hips, extending to the lower extremities, being particularly felt across the insteps, or in the calves of the legs. Before long, any attempt to evacuate the bowels, causes acute pain at the sphincter, with a sensation of something protruding, which retires on the cessation of the effort, and excites but little attention, till a portion of it becomes strangulated, and requires to be returned. In this state patients will go on for a great length of time before applying for medical assistance. After this the disease rapidly increases, and becomes excessively painful, and from its magnitude prevents the passage of the smallest evacuation without acute agony; and at last will descend on the slightest exertion, or even spontaneously, so that it is obliged to be retained within the sphincter by mechanical means.

In the succeeding chapter the author takes up the treatment, and observes, that our first object should be to remove or mitigate the disease without a recurrence to an operation. Our success in this, however, will depend on the cause of the affection. If it has arisen from general causes, and is unconnected with any local derangement, the cure may often be effected by very simple means. Thus, the patient must be interdicted from any recreation or employment likely to have occasioned the disease. Attention must also be paid to the condition of the stomach and bowels, and care taken that the quantity of food be moderate, and that none of an astringent nature be allowed, especially rice, high-seasoned meats, crude vegetables or fruits, as well as fermented liquors, and excessive indulgence in wine. In the management of the bowels, although costiveness should be scrupulously guarded against, no medicine ought to be administered of an irritating character, as the drastics, and more especially aloes; on the contrary, the purgatives chosen should be of the mildest character, and given in the smallest possible dose. The state of the liver is not to be overlooked, as in most cases of chronic prolapsus of adults, the functions of this viscus are more or less at fault; hence this organ must be restored to a normal

condition by venesection or local blood-letting, and alterative doses of mercury. If the digestive functions are impaired, we may recur to some of the bitters combined with small doses of the alkalies. Daily exercise on foot or in a carriage is indispensable; when the latter is used, a seat of cane net-work, or an air cushion should be used, as it is of the utmost consequence to prevent any determination of blood to the parts. As regards the local treatment, Mr. Salmon gives ample instructions, which we shall cursorily notice. He is highly in favour of a proper use of enemata, but at the same time protests against the habit of employing large injections on every trifling occasion: he says that the quantity should not exceed a pint, and even half this will often suffice. He prefers the gum elastic bottle and pipe to any other instrument for this purpose. Astringent washes are useful in the first stages. Leeches to the anus are very beneficial, especially where the liver is disordered. The use of opiate suppositories, or sedative lotions to the orifice, are also very useful in relieving the irritability of the sphincter. In the ulcerative stage, chloride of lime, in the proportion of half a drachm to a pint of water, a third of which is to be used night and morning as an enema, will lessen local irritation and correct the offensive odour of the discharge. Bandages are often required as a local support, where the removal of the tumour is contraïndicated. The most essential point is to ascertain whether there is not a diminution in the calibre of the intestine, as if this exists, any attempt to cure the prolapsus will be useless. This contraction does not always exist near the orifice; in fact, prolapsus can scarcely take place when the latter is the case, as there will not be sufficient mucous membrane below the stricture to be protruded. The state of the rectum ought to be examined in every case of prolapsus, as this examination can never be productive of any possible injury.

Mr. Salmon next enters on the consideration of the various operations required in the cure of prolapsus, the first of which he notices is division of the sphincter; this must be resorted to when the muscle is so strong as to become a permanent obstacle to the function of the bowel. This state of things, it is true, may sometimes be remedied by the use of the bougie or the plug, but permanent relief is only to be expected from a division of the sphincter. This may be done either by a simple incision, or by the removal of a triangular portion of it. Where the muscle is narrow the first is sufficient, but when it is very broad, the latter should be had recourse to.

To ensure the success of the operation, we must be cautious not to allow the wound to heal from its edges, and in order to prevent any contraction after its cicatrization, a plug should be occasionally introduced. We cannot give the mode of operating as the author refers to plates of instruments invented by him for the purpose. The next surgical operation spoken of, is the removal of the tumour. For this purpose he infinitely prefers excision to the use of ligatures, as being more certain and less painful, the only objection to it being the danger of hæmorrhage, and this he thinks he is able to obviate by a plan devised by himself, which he says has been eminently successful. It is as follows—the patient being placed in a proper position, one or more long pins are to be passed from above downwards transversely through the basis of the tumour, to prevent the return of the intestine after the operation is performed. The prominent parts of the tumour are then to be seized by a hook or forceps and drawn

gently to the opposite side, and with one stroke of the scissors, the part is to be removed as deep as the division between the mucous and muscular coats; the latter must be left entire, or there will ensue a permanent difficulty of evacuating the bowels; all the protruding portions are to be thus taken off. Any material bleeding is to be checked by cold, &c. The pins are to be left for an hour or two, to permit the blood to coagulate in the extremities of the divided vessels, before the bowel is restored to its natural situation. When they are removed, the rectum is to be returned within the sphincter in the gentlest manner. The after treatment is perfect rest, liquid and rigid diet, &c. The recovery is generally rapid, not requiring more than a week or ten days. Sometimes, however, a ligature is obliged to be adopted; this should be of the finest silk, and should be passed as is recommended by Dr. Roussean, of this city, in cases of hæmorrhoids, through the tumour, so as to divide it into two or more parts. The ligature is much more apt to create local and constitutional mischief than is caused by excision, and is not as likely to give permanent relief.

Mr. Salmon next makes some observations on that common disease, the *procidentia recti* of infants. This is to be combated by astringent lotions and a proper bandage, and care taken to prevent costiveness, though the author with great truth, reprehends in the strongest manner the prevailing custom of purging children on every occasion. This plan will not always relieve the prolapsus, as it may be occasioned by worms, which are to be expelled by the usual means. Mr. Salmon speaks favourably of injections of spirits of turpentine.

A number of cases illustrative of the different forms of the disease are related. R. E. G.

XXI. *An Essay on the use of Nitrate of Silver, in the cure of Inflammations, Wounds, and Ulcers.* By John Higginbottom, Nottingham, Member of the Royal College of Surgeons of London. Second edition, much improved and enlarged. London, 1829. pp. 204. 8vo.

The observations of Mr. Higginbottom respecting the therapeutic properties of nitrate of silver, are not only exceedingly interesting, but also possess, in several respects, the merit of novelty, and we shall therefore lay a pretty full account of them before our readers. We have had ourselves little experience with the remedy employed in the mode recommended by our author, his essay, by some accident, never having reached us until a few weeks since, but are disposed however to place much confidence in the facts related by Mr. H., his experiments having been extensive, and apparently conducted in a proper spirit; and although something must of course be allowed for the zeal and enthusiasm of a discoverer, and Mr. H. appears to consider the nitrate of silver as a real panacea, still little doubt can be entertained but that it is a valuable remedy in many local diseases in the treatment of which it had not been previously used, or had been improperly applied.

Mr. H. protests at the very commencement of his work against the application of the term *caustic* to the nitrate of silver, since he says instead of destroying, it frequently preserves parts which would inevitably slough except for the extraordinary preservative powers of this remedy. The principle then upon which Mr. H. sets out, is that nitrate of silver possess the property of *subduing*

external inflammation, and to effect this in some cases, it is sufficient merely to blacken the cuticle; in others it is necessary to induce a degree of vesication, which is however less irritable than that caused by cantharides, and in others to produce an adherent eschar. As to the modus operandi of the remedy, the author affords us but little light; his object, however, he states is simply to ascertain and state practical facts, and in this we shall follow him.

When it is desired to produce vesication with the nitrate, the part must be first washed with soap and water, and dried; then again moistened, and a long stick of nitrate of silver be passed a few times over, not only every part of the inflamed skin, but also the surrounding healthy skin to the extent of an inch or more beyond it, in severe cases. The part is to be exposed to the air to dry, and is to be kept cool. In twenty-four hours, if the nitrate of silver has been properly applied, it will be frequently observed that the inflammation has subsided, and its progress checked; but if there be any inflamed spot left untouched, the patient will complain of it. To every such spot the nitrate of silver must be applied. At this period there is usually a little vesication. On the third day there is generally more vesication and less swelling, and the patient complains of a little pain, as that of a blister; but the part on pressure has a puffy feeling, and is found to be quite free from inflammation. On the fourth day the vesications begin to disappear, the exuded fluid drying in crusts, which should be allowed to drop off spontaneously. On the fifth day these crusts separate, leaving the subjacent parts free from soreness and inflammation. It is sometimes a number of days before the whole of these crusts peel off, but it is best to leave them undisturbed.

It is not, however, as a remedy in external inflammation alone, that Mr. H. extols the nitrate of silver; he states in general terms that it is equally useful as a means of inducing the healing process or adhesive inflammation, in recent wounds, whether incised, punctured, or bruised. In incised wounds he says that union by the first intention is frequently secured by the application of the nitrate of silver on the surrounding cuticle—in punctured wounds union is promoted, and suppuration prevented—in bruised wounds, the action of the parts is so modified that their texture is often preserved unbroken, and sloughing which would otherwise inevitably have taken place, obviated. In neglected punctured wounds, attended by ulceration, pain, swelling, and fungous growths, and in cases in which there would have been destruction of the parts, as in deep-seated inflammation of the finger, the nitrate of silver has a most decided effect in checking the inflammation, in preventing that destruction of parts, and in inducing the healing process. In ulcers which are rapidly spreading, attended with severe and extensive inflammation, this remedy has frequently an immediate effect in subduing the inflammation and in inducing the healing process. In those cases of inveterate and obstinate ulcers of the legs which have been for years unhealed, attended by sleepless nights and painful days, the nitrate of silver, applied under peculiar regulations, has extraordinary powers in relieving the pain and inducing sleep, even from the first time of its application; and eventually in healing the ulcers themselves, and effecting a more firm and durable cicatrix than any other mode of treatment.

For the attainment of these various objects, Mr. H. applies the nitrate of silver in three different modes; 1st, to form an adherent eschar; 2d, when this is

impracticable to produce an unadherent eschar; and 3d, when neither of these can be effected, the use of the nitrate is combined with that of an emollient poultice.

The remedy is employed in the first method indicated, upon the principle that wounds and ulcers infallibly heal, whenever an eschar made over their surface, can be preserved adherent.

"To the surface of the wound the eschar supplies a complete protection and defence, and allows the healing process to go on underneath, uninterruptedly and undisturbed. It renders all applications, such as plasters, totally unnecessary, as well as the repeated dressings, to which recourse is usually had in such cases; and it at once removes the soreness necessarily attendant on an ulcerated surface, being exposed to the open air. In many cases, too, in which the patients are usually rendered incapable of following their wonted avocations, this mode of treatment saves them from an inconvenience which is to some of no trifling nature."

Mr. H. lays great stress upon the importance of preserving the eschar adherent, and avoiding all causes which might detach its edges. To secure this adherence more effectually, he protects the eschar by covering it with gold-beater's skin. It is applied by simply moistening the skin surrounding the wound by a drop of water, and then applying the gold-beater's skin over it and the eschar, to which it soon adheres firmly, and from which it may be at any time removed by again moistening it for a moment with water.

"In this manner, in cases in which there would be much and long-continued irritability and pain, as in superficial wounds along the skin, all this suffering, and its consequence in disabling the patient, are completely avoided. A blush of inflammation forms around the eschar, but this gradually subsides without any disagreeable consequences, and the inflammation which would otherwise have been set up, is entirely prevented by the due formation of the eschar. In my earlier experiments I observed this fact; but since that time I have always applied the nitrate of silver on the surrounding skin, and beyond any inflammation which might be present, or which might supervene."

The advantage of healing by eschar, over that by scabbing, as employed by John Hunter,* Mr. H. asserts to be very decided, and that he has found by comparative trials, that whilst the scab is irritable and painful, and surrounded by a ring of inflammation, the adherent eschar becomes totally free from pain and inflammation, and that whilst the scab remains attended by inflammation and unhealed, the eschar is gradually separating, leaving the surface underneath completely cicatrized; finally, that the plan of healing by eschar is infinitely more certain, and more speedy, than that by scabbing. We can say nothing of this from our own experience; but it appears to us that the nitrate of silver must act in such case principally by coagulating the discharges from the wound, and thus securing the formation of a crust, which unassisted nature does not always effect; and no one can for an instant doubt the superiority of this method over that employed previous to the time of John Hunter, viz. the application of balsams and a farrago of stimulants.

In recent injuries, and in very small ulcers, attended by little inflammation, the eschar is generally adherent; in other cases, it is too apt to be unadherent,

* See his work on the Blood, &c.

arising from the formation of pus, or of a scab underneath. If pus forms, rendering the eschar unadherent, which may be determined in the space of twenty-four hours, a small incision is to be made into the centre of the scab, with any sharp-pointed instrument, the fluid gently pressed out, and the nitrate of silver then applied to the orifice thus made. The same plan is to be adopted if the fluid ooze out at the edge of the eschar; it is to be fully evacuated by pressure, and the orifice is to be touched with the nitrate of silver. If the eschar be very large, and there are several cavities with pus, it may be necessary sometimes to make several small incisions in an eschar, but the healing process goes on best when the orifice thus made is in the centre of the eschar. In this manner, the eschar is occasionally rendered adherent; but more frequently the fluid requires to be repeatedly evacuated, and this should be done once a day, taking care that the eschar be not needlessly separated by allowing the fluid to accumulate. If the eschar be accidentally separated before the ulcer is healed, Mr. H. advises the nitrate of silver to be applied anew. At length the eschar becomes adherent, and in due time it peels off, leaving the surface healed.

When the purulent matter is allowed to remain too long under the eschar without being evacuated, a scab forms underneath the eschar, this is attended with pain and inflammation, the eschar does not separate but remains long over the sore, and there is no appearance of healing. In this case, the whole must be removed by the application of a cold poultice for two or three days, which removes the eschar and allows the inflammation to subside, after which the nitrate of silver must be reäpplied. The gold-beater's skin is even more necessary, as a protection to the unadherent than to the adherent eschar, the former being more liable to be torn off than the latter.

Mr. H. does not recommend this treatment in all cases indiscriminately; on the contrary, he says that it is improper to employ the nitrate of silver, with a view of healing by eschar, in large ulcers, or wounds which do not admit of the formation of a complete eschar, or where the ulcer or wound is so situated as to render it impossible that the eschar should remain undisturbed, as between the toes, unless, indeed, the patient be confined to bed.

In such cases Mr. H. recommends the application of the nitrate of silver, and then a poultice, and this from day to day according to circumstances, until at length, by the subsidence of the inflammation, and the cicatrization of the ulcerated surface, the case may admit of the formation of an adherent eschar, and of the final healing of the ulcer. This plan he says he has found particularly useful in neglected punctured wounds attended by ulceration, pain and swelling, recently-opened abscesses, and in neglected deep-seated inflammations of the fingers. In these cases, he says, it is not only necessary to apply the nitrate of silver to the surface of the sore, but in every cavity or orifice which may be formed by the disease, and also on the surrounding inflamed skin, repeating it as may be necessary. By this mode the pain and swelling are much subdued, and a free issue is secured for the secreted fluid, and Mr. H. has never seen the original inflammation increased by it.

Mr. H. next exemplifies more particularly the beneficial effects of the remedy in several forms of external inflammation, in punctured and bruised wounds, ulcers, and lastly in burns and scalds. The external inflammations to which Mr.

H. considers the nitrate of silver applicable are, phlegmon, whitlow, erysipelas, and inflammation of the absorbents.

In slight cases of whitlow, the application of nitrate of silver over the inflamed part will often prevent suppuration, but when this has already taken place, the abscess should be freely opened, the nitrate of silver applied well within the cavity, and the part then enveloped in the cold poultice and lotion. When the inflammation returns, the application must be repeated, but this is said seldom to occur.

In slight cases of erysipelas of the face, Mr. H. resorts first to every active constitutional means of cure, and if these fail he then has recourse to the nitrate of silver rubbed over the moist skin, in the mode already described, and always it is stated with the result of subduing the cutaneous inflammation, alleviating the pain and heat, preventing sloughing, and relieving the constitutional symptoms. General antiphlogistic measures are, however, to be continued.

In inflammation of the absorbents, Mr. H. applies the nitrate of silver to the ulcer or wound in which it originates, and slightly over the surrounding inflammation, along the course of the inflamed absorbents, and on the surrounding skin wherever there is any swelling.

In recent punctured wounds, Mr. H. directs the orifice to be first examined, and if there be any loose portion of skin closing this orifice, it is to be removed by a pair of sharp-pointed scissors, or by a lancet: the puncture and surrounding skin are then to be moistened with a little water, and the nitrate of silver is to be applied within the puncture until some pain be experienced, and rather lightly, so as not to occasion vesication, to the skin, for an inch round the puncture; and to a greater extent even, if the swelling exceeds that space: the part is then to be exposed to the air. It does not appear necessary to apply the nitrate of silver deep in the puncture; and it would occasion unnecessary irritation. In this manner, says Mr. H. it is astonishing how completely the terrible effects of a punctured wound are prevented. The eschar, indeed, frequently remains adherent, and the case requires no further attention.

"At a later period after the accident," he continues, "when the puncture has been neglected, some degree of inflammation is usually present, the orifice is nearly closed with the swelling, and a little pus, or fluid, is formed within: a slight pressure will evacuate this fluid. The nitrate of silver may then be applied within the puncture, and over the surrounding skin beyond the inflammation, and must be allowed to dry. In this manner we frequently succeed in forming an adherent eschar, and in subduing all the inflammation. If there be any vesication, it may be simply left to nature: the fluid is soon absorbed or evaporated.

"If there be reason to suppose that an abscess has formed deeply, it must be opened freely by a lancet, and the nitrate of silver is then to be applied within the cavity; a poultice of bread and water, and cold water as a lotion, are then to be applied over the whole. The application may be repeated every second or third day, if the swelling or inflammation require it, and the cold poultice may be renewed every eight hours. I have several times applied the nitrate of silver over an inflamed surface, in cases where I was not aware that suppuration had taken place. Even in these instances an immediate check is given to the surrounding inflammation, and relief to the pain; but in two or three days there is an increase of swelling, attended by some pain, which is not usual, except when there is matter, or some extraneous body, underneath. In these

cases, I make a free incision with the lancet, and apply the nitrate of silver, and a cold poultice.

"In cases of puncture, where the orifice is healed, and where an erysipelatous inflammation is spreading, attended with swelling, I have applied the nitrate of silver freely over and beyond the inflamed parts, to form an eschar; and I have had the satisfaction of finding that the inflammation has been arrested in its progress, and has shortly subsided.

"This mode of treatment is particularly useful in cases of punctured and lacerated wounds from various instruments, such as needles, nails, hooks, bayonets, saws, &c. and in the bites of animals, in inflamed leech bites, in the stings of insects, &c.

"The dreadful effects of punctures from needles, scratches from bones, of wounds received in dissection, and of other similar injuries, are often totally prevented by these modes of treatment. I have for the last seven years had frequent opportunities of trying them in these cases, and have the most perfect confidence in their success.

"In considerable punctured wounds, where an adherent eschar cannot be formed, the nitrate of silver may be applied to the lips of the wound, and over the surrounding skin for several inches, so as not to induce vesication, and the edges of the wound may be brought together by sticking plaster, as in healing by the first intention. This mode of proceeding prevents the excess of inflammation and consequent suppuration, and the wounds have healed nearly as by the first intention."

In some cases where the common mode of pressure by sponge and adhesive plaster cannot be used to stop the bleeding of leech-bites, Mr. H. says it may be effectually stopped by the firm application of the point of a stick of nitrate of silver within the little orifice, continued for a short time. Mr. H. also states that this application to leech-bites, as soon as they have done bleeding, will cause an adherent eschar, and prevent that irritation and erythematous swelling to which some patients are subject. Where there is great inflammation also, several days after the application of leeches, it is quickly subdued by the nitrate of silver, and irritable sores following the application of leeches, heal readily by eschar.

In the treatment of bruised wounds, Mr. H. urges the early application of the nitrate of silver, and states in bruises of the skin he has in every instance effected a cure by the adherent eschar, if this application was made early, unless the skin had been in an unhealthy and discoloured state from previous ulcerations, or in old persons in whom the skin was tender from exposure to the fire, or in whom there was considerable œdema. The difficulty, however, of forming an eschar is always increased by delay. When the patient applies too late after the accident to prevent the formation of a slough, and the slough itself is superficial, Mr. H. removes it with a pair of dissecting forceps and scissors, a practice we conceive which would be "more honoured in the breach than in the observance." It certainly is not consonant with sound principles.

In severe cases of bruise attended by inflammation and swelling, in which the suppurative stage had not commenced, the nitrate of silver must be applied on the bruised, swelled, and inflamed parts, so as to induce an adherent eschar, which is to be exposed to dry. In those cases where a recent bruised wound is too considerable to heal by eschar, the nitrate of silver should first be applied on the surrounding skin for several inches, so as not to induce vesication, and over the wound which cannot be covered by the skin: the skin is then to be brought

as nearly into apposition as may be by means of common adhesive plaster, without any intervening dressing. The plaster will not irritate the skin or wound, for they are protected by the eschar. By this method the wound will frequently be healed by the first intention.

In the treatment of ordinary ulcers, Mr. H. does not recommend the mode of healing by eschar, the attention, discrimination, and experience required on the part of the surgeon, and the necessary care on that of the patient, rendering it rather difficult. Except, therefore, in small ulcers, where there is no inflammation, but little discharge, and the parts not exposed to much friction or motion, Mr. H. has abandoned the practice. In large ulcers, attended with inflammation, he has, however, adopted another plan, which he states to be far more successful, and to require very little attention on the part either of the surgeon or patient.

"If there be swelling or œdema, I direct the patient to take a dose of opening medicine, to apply a common poultice of bread and water over the ulcer, and to keep in bed for four and twenty hours. The inflamed parts must be washed with soap and water, and wiped dry. They are then to be moistened with water, and a long stick of the nitrate of silver must be passed all over the inflamed and ulcerated surfaces, twice, and rather more freely on the ulcer itself, and on the surrounding skin. Lint must then be put on the ulcer, and the whole of the inflamed and ulcerated parts must be covered with the neutral ointment,* spread on linen; a compress of five or six folds of fine linen is then to be applied over the ulcer, and a common roller, not too tight, to keep on the whole. The leg is to be examined on the fourth day, when it will be found that the inflammation is nearly, if not entirely gone, and the ulcer is in a healing state. The nitrate of silver must then be applied on the whole of the ulcer, and once lightly over the skin immediately surrounding it, one or two inches in breadth; the lint and ointment are to be applied as before, and the bandage rather tighter. The case must be treated in this manner every third or fourth day, until the ulcer be healed. I would recommend wearing a calico roller for some time afterwards, till the leg has recovered its usual strength. The patient may walk about after the first or second application of the nitrate of silver."

Mr. H. like most other surgeons, has experienced the difficulty of managing old ulcers of the legs, and found the insufficiency in most severe cases of even the much-approved plan of Mr. Baynton. Mr. H. was therefore led to try various modes of application of the nitrate of silver in these cases, and after many experiments he has finally adopted the following plan.

"The first thing I direct my patient to do in such a case, is to apply a common white bread and water poultice, to keep in bed for eighteen or twenty-four hours, to allow any swelling of the leg to subside, and to take a dose of opening medicine. The leg is after this to be washed well with soap and water, to free it from any oleaginous substance, or loose cuticle; it is then to be wiped dry with a towel, the inflamed part is to be moistened with pure water, and the nitrate of silver is to be passed twice over it, and a little beyond it on the healthy skin; and then, more freely, to every part of the ulcer, and particularly the edges and immediately surrounding skin; a piece of lint is to be put over

* The following is the formula for the ointment here alluded to by Mr. H.—℞. Emplastri plumbi, ℔iij.; Olei olivæ, ℔ij.; Cretæ ppt. ℥xviij.; Aceti distillati, ℔j. The acetic acid and chalk must be well mixed in a mortar, and the lead plaster and olive oil, previously slowly melted together, are to be added. The whole is then to be stirred together until cool.

the ulcers, and linen spread thick with the neutral ointment, over the whole inflamed and ulcerated parts; a compress of linen, and a common calico roller are to be applied in the last place, the latter not tight, but just so as to retain the dressings in their place. The patient is obliged to remain a few hours in bed, on account of the pain occasioned by the application of the nitrate of silver; but after this has once subsided, he enjoys more relief than from any former application, and sleeps soundly all night, for the first time perhaps for years. The dressings are to be taken off at the expiration of the fourth day, the inflammation is then found to have nearly subsided, and the ulcer is become more healthy in its appearance. If any of the plasters adhere, they may remain until the next time of dressing; the applications to the ulcer itself are readily removed, as there is usually a free discharge of lymph from its surface. This discharge is to be simply removed by a little linen or tow; the nitrate of silver is again to be applied all over the wound, on its edges, and the skin immediately surrounding it; and if any of the plaster be detached, and there be any inflamed part, slight sore, or excoriation, those parts are to be slightly touched with the nitrate of silver. About the expiration of three more days, the eschar is found to be detaching itself from the surface previously inflamed, and all the inflammation gone. The patient now makes no complaint, is free from pain, sleeps well every night, is able to follow his employment; there is generally a free serous discharge from the ulcer, free from fœtor. The nitrate of silver is again to be applied over the whole surface of the sore, its edges, and the adjacent skin. This plan has the effect of preventing any inflammation of the surrounding skin, or irritation on the surface of the ulcer itself. It is to be repeated every third or fourth day, till the ulcer be healed. When the ulcer is near the ankle, deep, of long standing, and with hardened edges, and with enlargement of the vena saphæna, and swelling of the foot, I have added, to the mode of treatment just described, the treatment by strapping, recommended by Mr. Baynton, and recently improved by Mr. Scott.* The latter gentlemen recommends the emplastrum plumbi, which is not so apt to irritate the skin; but where the nitrate of silver is used, the common adhesive plaster may be used without inconvenience. If any excoriation did arise from any cause, a slight application of the nitrate of silver would induce a firm eschar, and prevent any ill effect. I prefer that the adhesive plaster should be spread upon dimity, which is stronger, and gives more support than the calico."

Mr. H.'s experience in the use of the nitrate of silver in burns and scalds has not been very extensive, yet as far as it has gone it appears satisfactory. He says that by slightly passing the nitrate of silver once over a burnt surface, the pain is increased for a short time, but then totally subsides, vesication appearing to be prevented; the black cuticle peels off in a few days, leaving the part well. In cases in which the cuticle has been removed, the nitrate of silver applied on the surface induces an adherent eschar, and prevents the consequent ulceration. In cases in which a slough covers the surface, Mr. H. removes it, a practice we have already reprobated, and then applies the nitrate of silver, with the effect of producing an adherent eschar and a cure. In one case, in which, after a burn, the part was healed over, and a considerable cicatrix formed resembling a fungus, and attended with severe pain, the nitrate of silver removed all inflammation and pain. In very extensive recent burns, Mr. H. has never had an opportunity of using the nitrate of silver; a case of extensive scald has however been recorded in a late number of the Edinburgh Medical and Surgical Journal, which seems to confirm the anticipations of the utility of the remedy entertained by Mr. H.; we shall therefore insert it in our Periscope.

In an appendix, Mr. H. introduces some cases of a desultory character which

* This plan will be found described in our Second Volume, p. 407.—*Ed.*

he could not well embody in the work. They relate to the use of nitrate of silver as a blister, in gun-shot wounds, in neuralgia, contracted rectum, ulceration of the tongue, irritable ulceration of the eye, fungous ulcer of the navel in infants, and in the treatment of corns.

A letter from Mr. Webster of Dalworth, and another from Mr. Tobias Browne of Camberwell, in which the writers bear their testimony to having used the nitrate of silver with advantage in various cases, are also given in a second appendix.

Mr. Higginbottom has but seldom used the nitrate of silver as a blister, but in the cases in which he has employed it, he states the effects to have been very satisfactory. He is persuaded that it possesses a decided superiority over cantharides in many cases, causing less irritation, and being more prompt in its action and also as not inducing strangury. It induces a very copious discharge without heat or pain after the first few hours. The vesicated part heals about the fifth day without leaving the least ulceration.

Three cases of neuralgia are related in which the nitrate of silver was applied as in external inflammation, along the course of the pain, with marked relief.

XXII. *A Manual of Materia Medica and Pharmacy, comprising a Concise Description of the Articles used in Medicine; with Observations on the Proper Mode of Combining and Administering them: Also the Formula for the Officinal Preparations of the London, Edinburgh, Dublin, Parisian, American, and most of the Continental Pharmacopœias; together with a Table of the Principal Medicinal Plants.* From the French of H. M. Edwards, M. D. and P. Vavasseur, M. D. Corrected and Adapted to British Practice. By John Davies, M. R. C. S. Surgeon of the Hert's Militia; late Editor of the London Medical and Surgical Journal, &c. pp. 490. 8vo. London, 1831.

We have heard of a book published in this country some years since, in which the publisher modestly inserted his own name in the title page for that of the author, thus reaping at the same time literary fame and pecuniary emolument; and we have actually in our possession a work translated from the French, with a few additions, in which the author is merely noticed in the preface, as having written a very imperfect book on the same subject, whilst the translator and compiler modestly figures on the title page as the author! These were, however, bungling and easily to be detected attempts at fraud, and are not to be compared to the judicious management exhibited by the editor of the manual, the title of which is at the head of this article. Indeed we do not recollect ever to have met with what appears to be a more ingenious artifice to secure to one's self the credit of other people's labour, without actually laying claim to it, than that displayed in the publication under consideration. We say *appears* to be, for it would be malicious in the extreme to suppose that the surgeon of the Hert's militia could have imbibed so little honour from his gallant associates as to desire to appropriate to himself merit which does not belong to him. We venture, however, to assert that ninety persons in a hundred who would read that work, would receive the impression that Mr. Davies was the translator, and if a suspicion of his not being so, did perchance flash across their minds, they

would, on comparing the translation with the original, and observing the numerous additions, regard him, at least as the author of the latter. And yet this would be entirely erroneous, nor has Mr. Davies any where claimed being either the translator or the author of *all* the additions.

Indeed were Dr. Togno and Mr. Durand to say to Mr. Davies, "Sir, you have taken our translation of Drs. Edwards and Vavasseur's Materia Medica, with our numerous additions, without any acknowledgment of your obligations to us—you have published them as being corrected and adapted to British practice by you, and in the preface state your having added some new matter;" he might reply, "Gentlemen, I have made no claims to being the translator, on the contrary, to remove any doubt as to my having taken advantage of your labours, and to enable you at once to prove it, I have carefully preserved in my edition even your typographical errors;—as to correcting and adapting it to British practice, I have mystified your observations on the wax-myrtle so as to render them perfectly unintelligible;—and of new matter I have inserted three paragraphs of nearly four and a quarter lines each, relating to well-known English mineral waters; I have introduced into the list of wines two, (raisin and currant,) and I have also added five notes, making in all thirty-two lines." To all this what rejoinder can Dr. Togno and Mr. Durand make? We hope they will not be so ill-natured as to say that Mr. Davies has exhibited more talents for another profession than for his own, or take advantage of his not having made any positive claim to candour, to deny him the possession of that virtue.

So far, however, as we are concerned as reviewers, it is only necessary for us to state, that Mr. Davies has republished Dr. Togno and Mr. Durand's translation of the valuable Manual of Materia Medica of Drs. Edwards and Vavasseur, with a few additions and alterations, the most striking of the latter being the confounding of the additions made by the translators, and even his own three little sentences with the original, so that it is impossible to distinguish what belongs to the authors of the original work, what to the American translators, and what to the English editor, without a careful comparison of the three works; and thus by modestly omitting any distinguishing mark to his own three sentences, Mr. D. actually incurs the risk of having all the additions assigned to himself.

In showing his willingness to father the labours of Dr. Togno and Mr. Durand, he has paid them the highest compliment in his power, and one of which those gentlemen will no doubt be duly sensible.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Anomalies in the Arterial System and in the Ganglionary Nervous System.*—M. Jodin, *interne de l'hospice des Enfants-trouves*, describes in the *Journ. Universel et Hebdom.* for June last a very interesting instance of anomalous arrangement of the arterial system and ganglionic nervous system, occurring in a child who died in consequence of imperforate anus, the rectum terminating in a cul-de-sac an inch above the os coccyx. The aorta communicated freely with the pulmonary artery through the ductus arteriosus. It gave origin, before its curvature, to a trunk common to both carotids, which proceeded perpendicularly upwards; at its curvature it gave origin to the left subclavian, and finally to the right subclavian, which arising from the termination of the arch, passed transversely behind the œsophagus in front of the vertebral column, then entered between the scaleni. At the second lumbar vertebra the aorta gave off the cœliac trunk, the superior mesenteric, the right renal, (there was no left,) the spermatics, and divided into two branches; the first continuing in the direction of the aorta, and of almost equal size, gave off the inferior mesenteric, ran to the posterior parietes of the bladder in the median line, passed to its summit, and from thence to the umbilicus, where it divided into two branches. It could be injected in this course to within half an inch of the umbilicus. The second branch arising at the posterior part of the aorta, at an acute angle with the preceding, of half the diameter, passed a little to the left in front of the spine, as far as the sacro-vertebral angle. There it dipt into the pelvis, passed between the sacrum and rectum, forming a curve from the left to the right with the convexity downwards, and running upwards again in front of the right sacro-iliac symphysis, to terminate under the crural arch of the same side. In this course it furnished all the branches for the nourishment of the inferior part of the trunk and the lower extremities: 1st, at the sacro-vertebral angle, the right and left lumbar arteries. 2d. An artery distributed to the left lower limb, which corresponded tolerably well to the external iliac artery, taking nearly the same direction, furnishing the same branches, but in addition supplying the iliac muscle with branches, which in the normal arrrangement, come from the hypogastric. 3d. Finally, from the convexity of the pelvic curve, successively arose, from the left to the right, most of the branches which are commonly given off by the two hypogastrics. The branches which exist are very small and imperfectly developed; the middle sacral artery was entirely wanting.

The great sympathetic accompanied the arterial system in its irregularity—suitably developed at its superior part, it is but slightly so at its inferior, where a sacral ganglion only is found, not the coccygian one.

The cerebro-spinal nervous system did not participate in these anomalies. It was regular and fully developed.

The relator of the case is of opinion that this simultaneous cessation in the

development of the intestine, the bone, the nervous and vascular system occurs more frequently than has been supposed.

The anomaly presented by the superior portion of the vascular system have been several times previously observed, and are delineated in the great work of Tiedemann. The singular disposition of the inferior portion, however, of this system, M. Jodin cannot find described in any of the works on anatomy.

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2. *On the Perspiratory Vessels of the Skin.*—Dr. Hake has published in the *London Medical and Physical Journal*, for July last, some curious researches on the perspiratory vessels of the skin. It is well understood that the exterior surface of the skin is perpetually moistened by the transpiration of a saline fluid: during the spring of 1830, Dr. H. first observed the perspiration on the points of the fingers, "to follow a determinate arrangement, of which the investigation led to the conclusions which follow: at some of them, however, the French anatomist, Beclard, had previously arrived. 'The surface of the skin,' says Beclard, 'presents small wrinkles peculiar to the epidermis in the palms and soles: these are prominent lines, separated by other depressed lines, running in various and winding directions, and which are formed by rows of papillæ.' "In my notes I have preserved an account which to the above is dissimilar but in language, the facts being the same; but there are some minute points which Beclard probably saw, without copying down: they are as follows.

"1. On submitting the base of the ridge, or prominent line, to the micrometer, its width was found to occupy one-fiftieth of an inch of space, whilst that of the groove, or depressed line, occupied only one three-hundredth part of an inch.

"2. The furrows are concave from side to side, and from their edges, which are distinct, arise the sides of the ridges which meet above at an angle, and thus, with their attached base, produce the form of a prism. The width of either side is about one ninety-sixth part of an inch, but the sides themselves are differently occupied: the one being covered by papillæ which are about one fiftieth of an inch remote from each other, and arranged in a regular series; the other side being occupied by superficial grooves, each of which passes from the porous aperture of a papilla, and descends into the groove: by the latter arrangement, the globule of perspiration which arises through the pore of the papilla, passes also into the groove, and thus is equally diffused over the surface.

"3. By dissecting away the ridge, layer by layer, to the level of the furrow, each new surface presents an opening, which is perpendicular to the spot formerly occupied by the mouth above.

"On first observing these phenomena, there are three circumstances apt to cause deception: 1. Owing to the inclination of the sides of the ridges, the papillæ may appear to be in the furrow. 2. The papillæ, if viewed from the sides which they occupy, seem to be on the summits of, or rather to constitute, the ridges. 3. If the ridges be viewed from the side on which the grooves are, the whole cuticular surface, owing to the meeting of grooves and furrows, looks reticulated.

"The cutaneous surface is, on the back of the fingers, traversed by grooves of many sizes, which frequently, and in all directions, cross each other, so as ultimately to leave only so many spots of uninterrupted surface. When, in order to find out the ultimate design of all this, a powerful lens is preferred, it is soon discovered that the former structure is so deformed as to yield no information; in fact, it will not bear the action of a high magnifier; but a moderate lens, will without any distortion, sufficiently enlarge the field of nature. If a mild perspiration be present, glistening particles of fluid are here and there observed, generally at equal distances from each other; and thus they follow the courses of the grooves, not occupying their cavities, but the summits of their sides; this is the more remarkable on the dorsum of the second phalanx of the fingers, but consequent on the frequency of the decussation of grooves, even there is

often confused. A superficial furrow may be occasionally traced, extending from a pore to a groove, but such is only to be regularly seen on the palms. The pores vary in size; those of the palmar surfaces being larger than on the backs of the fingers, and the latter than elsewhere; were I asked the reason of this variation, my experience would lead me to say, that it was instituted to give passage to a fluid more or less impregnated with saline matter.

"On the back of the first phalanx, the texture of the cuticle is fine and translucid; observing which, I deemed it probable that a microscopic examination might be attended with an useful result: by dint of care and labour, I was delighted with the sight of a few small and exquisitely attenuated vessels, of a red colour; they were directly under the cuticle, to all appearance, and, having emerged, they seemed to creep a little way, then open with red mouths, and become continuous with the epidermis. As far as could be distinguished, each vessel became first visible at a little distance from one pore, and, after a short course, opened to form the next.

"After having soaked the hand in very hot water, and again dried it, I examined the dorsal surface with the weakest power of the simple microscope, and found it regularly studded with aqueous globules, which, while the parts remained swoln, were no sooner removed than replaced. By a sudden and undesigned movement of the lens, a reticular work became visible, which seemed to be of vessels: although this appearance was as evident as if of far greater size, I doubted its reality, lest it should consist of so many grooves, which, in a peculiar light, might have the aspect of elevation; but, on a comparison with such as I knew to be only grooves, the distinction was marked. I have mentioned that there are left between the grooves only so many spots of uninterrupted surface: on these it is that the net-work above-mentioned exists: it is so distinct on the joints as to become visible, by practice, to the naked eye. On these perspiratory vessels I observed numerous projecting points, resembling truncated ramuscules of the prime branch. Under the light requisite to produce these phenomena to vision, the net-work has a beautiful blue colour. At the summits of the sides of grooves, (which on some joints sub-divide in the form of vessels,) it is that the vascular elevation is most conspicuous: one vessel I saw running down the side of a groove. The anastomoses of these vessels seem very frequent, and at different angles, especially at ninety, sixty, and one hundred and twenty degrees. At the apex of each papilla which is given off, the pore was visible if not occupied by sweat, and not of a red colour, like that discovered near the roots of the nails."

"Every one knows that the epidermis at the sides of the nails is much thicker than elsewhere. It was with a view to ascertain whether, and how, the pores are continued downwards, that I removed with scissors many layers of cuticle from those parts, and was astonished to see how well, not only the pores, but the ridges and grooves, maintained their characteristics: however, when the epidermis, instead of being cut, is peeled off the palms, the layer which becomes exposed is precisely similar to that which is removed. But a fact, which I at that time observed, has since often attracted my attention, for I conceive it to be important, although simple: however dry the skin may be externally, as soon as a layer is removed, the pores of the new surface are occupied by sweat. To account for the occasional aridity of the skin, hypothesis has almost, of necessity, urged a spasm of the pores, and sudorifics have been said to have the property of relaxing the contraction. The above experiment demonstrates the point in which the spasm resides.

"Much has been said concerning insensible perspiration. It is true that if the hand be presented to a mirror, its polished surface becomes tarnished; but this is owing to spontaneous evaporation from the excreted fluid. I have watched the progress of perspiration often, and always seen it to arise in a liquid state: nor is there sufficient reason to suppose an additional set of pores for an insensible exhalation.

"The appearance which I have described as resembling a net-work of ves-

sels, I believe to be an elevation of cuticle corresponding to the shape of the vessels beneath, which open at its surface. The thickness of the epidermis on the palms and soles, precludes the possibility of discovering the arrangement of the vessels which lead to that membrane, but we may infer a regular and fixed distribution, from the harmonious order of the pores themselves.

"Whether or not the perspiratory vessels were seen by Kaau and by Dr. Hunter, it must be certain that they proceed from the dermis to the epidermis: from the researches of Malpighi and his successors, it can be no less certain that there are dermoid vessels which open to supply the fluid of, if not to form, the rete mucosum. These facts, had they been considered, might have served in explanation of the question, why the fluid effused beneath the cuticle from blistering does not escape through the pores, although Bichat, as well as Meckel and others, have used hypothesis for its solution. The cantharides, when applied to the skin, acts on the secreting vessels of the dermis, which pour out, in reply to their proper stimulus, a greater quantity of fluid on the cellular tissue which invests its exterior surface, under the denomination of rete mucosum. How then can this fluid enter the porous vessels, which are continued from the dermis, and open only on the surface of the cuticle?

"With regard to the mode of proceeding, it should be remarked that it is not through a strong, but rather through a weak light, that the objects on the skin are to be seen; that an egregious error is committed by those who use powerful magnifiers; and that those are not less mistaken who have searched for pores on the detached portions of the skin, instead of examining living parts during the performance of their functions."

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3. *Malformation of the Uterus*—M. Vidal describes a curious instance of this. The uterus was elongated, cylindrical, and had but a single fallopian tube, and a single ovary. No trace of the other fallopian tube or ovary, could be discovered on the most careful inspection. The left kidney was situated in the pelvis.—*Bulletin de la Soc. Anat. Par M. Bérard, Jr. Secy.—Rev. Méd. June*, 1831.

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4. *Anomalous arrangement of the Aorta.*—M. Cruveilhier exhibited, not long since, to the Anatomical Society of Paris, a case in which the arch of the aorta passed behind the trachea and œsophagus, immediately in front of the spinal column. Four arteries arose from its convexity; nearest to the right side, the right primitive carotid, next the left primitive carotid, next the left subclavian; and nearest to the left side, the right subclavian. This last passed to the right side in front of the trachea and œsophagus.

M. Berard, Jr. at the same time, exhibited another anomalous arrangement of these parts. The arch of the aorta, in its natural position, gave origin to the four arteries first noticed, and in the same order, but the right subclavian passed to the right side between the vertebral column and the trachea and œsophagus.—*Ibid.*

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5. *Anomaly in the Pneumogastric Nerves.*—M. Bignardi, professor of anatomy at Modena, has communicated to the Anatomical Society of Paris, the dissection of a woman, in whom both pneumogastric nerves, presented in their whole course, a series of ganglions, some as large, others smaller, than the intervertebral ganglions of the spinal nerves, which they also resembled in structure. The great sympathetic on the left side was atrophied, and on this side the ganglions of the pneumogastric were both larger and more numerous. This woman during life exhibited nothing remarkable, except that she had a most voracious appetite.—*Rev. Médicale, June*, 1831.

PHYSIOLOGY.

6. *Mechanism of the Human Voice during Singing.*—M. Bennati some time since communicated to the Royal Academy of Sciences of Paris, a memoir on this subject. The following report of Baron Cuvier exhibits an excellent analysis of this interesting paper.

The intention of the memoir is to make known the part performed by the velum palati, or rather the strait of the throat formed by the velum palati, its arches, and the base of the tongue. We are aware that of the physiologists who have studied the organ of the voice, some have compared it to a stringed instrument, others to a reed instrument. M. Savart has compared it more happily to a kind of bird-call, and has established that the two ligaments of the glottis, and the ventriculi which separate them, take an essential part in the primitive formation of the voice. He has shown, at the same time, that the nature of the walls of the mouth, its internal configuration, and the more or less of tension of the parts which form it, concur in modifying the primitive sound, and can more especially lower it by means which do not consist in the greater or less elevation and depression of the larynx, taken in its totality. M. Savart has not, however, paid attention to the special use of each of these parts, neither has he attended to that of the velum palati. In general, little attention has been paid to this second strait; through which the air which produces the voice, is obliged to pass. Fabricius, of Aquapendente, had, nevertheless, remarked its importance, after having shown that the voice is formed at the larynx, after having made known the relations of elevation and depression of the larynx, and, in consequence, the variations in length of the buccal cavity. This illustrious anatomist also described the variations in width that the same organ undergoes in passing from grave to sharp sounds. Ferrien, long after, appears to have attended to the same considerations, and to have gone further than Fabricius: for, in terminating his memoir on the voice, he says, that the chordæ vocales are not the organs of every kind of voice; that a certain guttural intonation, and a false treble of the same nature, are produced by a new organ, the existence of which he has declared, and which he proposes to make known in a new memoir. The promised memoir never appeared, and thus we know not of what organ he intended speaking; Haller has supposed it to be the velum palati, but, however, he has not said in what manner this organ concurred in forming the voice.

In a thesis sustained at Tubingen, in 1781, M. Hellway stated, that in the false treble, the uvula contracted, whilst it did not change its shape in the ordinary tone. This is, we believe, all that has been said hitherto of the part the velum palati plays in the production of the voice, before the appearance of this memoir. M. Bennati, who joins to the skill of the physician great exercise in the art of singing, and who has one of the finest voices we know of, has paid particular attention to these motions: he has ascertained that the tongue itself, in elevating and depressing itself, or in forming itself into a hollow, exercises a powerful influence on the modulations, and that, in order that the larynx may give any tone, it is necessary that the os hyoides be firmly fixed in a determined position. He has, besides, recognised that the notes improperly called *de la tete*, and false treble, are formed almost exclusively by the labour and the strongest contraction of the superior part of the vocal canal. He names them, in consequence, *super laryngeal*, and calls their union *the second register*, to distinguish them from the notes said to come from *the chest*, and which he had rather call *laryngeal*, and their *ensemble*, the *first register*. He does not mean to say, by that, that the larynx does not aid in forming the one, nor the throat the other; but he wishes merely to show the more essential part that the throat takes in forming those of the *second register*. In regard to the *third register*, of which some works on singing speak, he regards it as imaginary, and owing simply to the vibration, more or less powerful, of the last notes

of the first, and of the first notes of the second. Those singers whose voices are composed of *two registers*, have need of more art to manage the transition from one register to the other, so as to unite them in the ear, and are more easily fatigued than others.

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7. *On the Connexion between the Maternal Vessels and Cord.* By S. C. Holland, M. D.—The following experiments were performed in order to ascertain, if possible, the nature of the union existing between the maternal vessels and the cord. Some physiologists are said to have succeeded in passing injections from one to the other, proving, as they imagine, a direct connexion; but so many probable sources of error have been pointed out in their experiments, that the conclusions drawn from them are little to be depended upon. At one time substances have been injected which emit a strong odour; at another, such as do not combine with the blood, as oil. Mercury, and the ordinary coloured injections have occasionally been used. There are great objections to the employment of all substances, except the two latter, and these are not altogether unexceptionable. When camphor is conveyed from the maternal vessels to the placenta, it is quickly absorbed and carried with the blood into the cord or fœtus. We have no means of ascertaining the time necessary for its absorption. This will depend on circumstances with which we are imperfectly acquainted. "When a quantity of camphor," observes Majendie, "is injected into the veins of a dog, the blood soon takes a strong odour of camphor. After having made this injection into a bitch with pups, I extracted a fœtus from the uterus; at the end of three or four minutes its blood had no odour of camphor; only a second fœtus, extracted after a quarter of an hour, had a strong odour of camphor. It was the same with the other fœtuses."*

On account of the rapid absorption of substances which are sometimes injected, we are scarcely entitled to conclude, from their presence in the fœtus, that a direct connexion exists between the vessels of the uterus and the cord. The employment of mercury or the ordinary coloured injection, is not entirely free from fallacy. If the connexion between the maternal vessels and the cord is *indirect*, or in other words, if the blood which is poured into the placenta from the uterus, is absorbed by the minute ramifications of the umbilical vein, in place of circulating in a continuous current to the fœtus, it is nevertheless obvious that those vessels which absorb, have open mouths in the direction of the uterus, whence the injection is transmitted, and, consequently, may, immediately after death, or whenever the vessels are similarly circumstanced, allow the propelled fluid to enter them. Beclard succeeded in injecting the uterus from the vessels of the cord in a woman who died during gestation. Experiments of the same kind have been repeatedly made by other physiologists, on the lower animals, but not with the same results. If, indeed, we grant that the experiment has been successful, in one or two instances, the positive evidence which can be produced is so equivocal in its nature, that it is wholly insufficient, in the face of numberless experiments of a contrary bearing, to establish a *direct* connexion. The arterial blood in the general circulatory system terminates in veins, and, if we consider the nature of those vessels of which the cord is formed, and the manner in which the blood circulates in them, we shall observe the same fact. The arterial blood which flows into the placenta from the uterus, is conveyed by the umbilical vein into the fœtus, and the venous blood which is poured into the placenta by the umbilical arteries, is carried into the system of the mother by the veins of the uterus.

Experiment I.—A rabbit, about the end of gestation, was killed by prussic acid. A quarter of an hour after death, the tube of the mercurial injecting apparatus was fixed to the inferior portion of the aorta, immediately before its bifurcation into the iliac arteries. In a few minutes a great number of small vessels on the external surface of the uterus, were observed beautifully inject-

* Trans. by Dr. Milligan p. 508.

ed. The process was carried on for about three-quarters of an hour, at which time it was necessary to discontinue it, in consequence of several vessels being ruptured. On opening the uterus, the maternal portion of four placentæ were found considerably injected, as well as a few vessels on the fœtal portion of two of them. No mercury whatever had passed into the vessels of the cord.

Experiment II.—The object of this experiment was to ascertain, whether it were possible to inject the whole of the placenta and the vessels of the cord, with a very finely coloured composition injected from the inferior part of the aorta. A bitch, apparently within a few hours of pupping, was killed by prussic acid, and the experiment was immediately commenced. The results of the experiment were not examined till the following day. All the placentæ were most distinctly and beautifully injected. The vessels of the cord had received no part of the injection. Injected vessels were readily traced from the uterus into the placenta. The best mode of showing this, is to tear, under the water, the placenta gradually from the uterus. The results of this experiment were observed by my friends Drs. Knight and Favell, and Messrs. William Jackson, James Ray, and Samuel Gregory, surgeons.

Experiment III.—A cat, near the end of gestation, was killed by the prussic acid, and left undisturbed for about two hours, it was then immersed for an hour and a half in warm water, after which a very fine injection was transmitted through the inferior portion of the aorta. Two days afterwards, one of the arteries going from the kitten to the placenta, was injected with mercury. On examining the placenta, the fœtal portion was found to have received a considerable quantity of the coloured injection. The whole of the fœtal surface presented a multitude of small vessels of an arborescent appearance. The vessels of the cord were in a natural state. The vessels of the fœtal portion were fully injected with mercury. No connexion, however, could be traced between the two different kinds of injected vessels.

Many experiments were performed on each of the fœtuses, to ascertain the nature of the connexion between the uterus and the cord, which are not related, because the results were precisely the same as those which are given.

In the first experiment there is nothing particularly worthy of observation, except the injected vessels on the fœtal portion of the placenta. In the second experiment, the coloured injection had succeeded remarkably well. The vessels of the cord were, however, not in the least injected. The results of the third experiment are extremely interesting. In appearance, the whole of each placenta was fully injected, nevertheless, a great number of vessels on the fœtal portion became very soon visible, on the employment of the mercurial injection, showing that the coloured fluid had penetrated only one set of vessels.—*Physiology of the Fœtus, Liver, and Spleen.*

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8. *Case of complete absence of the Cerebellum, together with the Posterior Peduncles, and protuberances of the Cerebrum, in a young girl who died in her eleventh year.*—Communicated by M. Combette, resident in the hospital of St. Anthony, (Service de M. Kapeler.)—Alexandrine Labrosse was born at Versailles, in May, 1820. Her father possessed a strong and robust constitution, but her mother was weak and unhealthy, and moreover, accustomed to excesses of every description. This child was very feeble when born, but well formed—she continued extremely delicate and puny, and grew but slowly. She had not cut her first teeth at two years of age, and it was only after she had reached her third year, that she began to lisp a few words. M. Miquel, to whom I am indebted for these particulars, saw her for the first time in 1827, when he was informed by her father that she was five years old before she could stand alone. He was astonished at her small size, and remarked particularly the great feebleness of the extremities. This symptom, joined to the want of intelligence in the child, and the impossibility of her articulating a word clearly, had induced M. Miquel to suspect some injury in the brain. He was several times called upon to prescribe for gastro-

intestinal irritations, although these presented no remarkable peculiarities. The last time he saw her, which was after her ninth year, he found the pupils extremely dilated, from which he was led to suspect the presence of worms in the intestinal canal. He was about to direct anthelmintics, when the nurse informed him that the little patient kept her hands constantly applied over the genital parts.

On the 12th of January, 1830, she was admitted into the Hospital des Orphelins, as a forsaken child. Her certificate of admission represented her as paralysed in the abdominal extremities, speaking with difficulty, and that her disease was owing to a fright experienced by her nurse.

In the letter addressed to the superintendant, requesting her admission, M. Miquel observes, "this little girl, although nine and a half years old, in consequence of the poor nourishment and little care she had received, is scarcely as large as a child of six years: this cause has arrested the development of both her physical and moral faculties."

At the time of her entrance into the Orphelins, she was feeble, cachectic, and possessed of very little intelligence. Apparently indifferent to every thing surrounding her, she nevertheless manifested friendship and gratitude for those who rendered her any attentions. When spoken to, she replied with difficulty and hesitation. Her limbs though extremely feeble, yet allowed her to walk, but she often fell down. She possessed the use of all her senses, eat moderately, and all the functions of nutrition were well performed.

In the month of January, 1831, when seen by M. Combette, her condition was as follows: Her features indicated a deteriorated constitution, and possessed an air of stupidity. She lay constantly upon her back, with her head inclined to the left side, and she could scarcely move her limbs; which, however, exhibited no diminution of sensibility. She had the free use of her hands. Her condition always manifested depression and dullness, and she seemed alike indifferent to both pleasure and pain. When questioned, she replied simply *yes* or *no*, always however, correctly.

For a long time she had been subject to glandular engorgements about the neck, and especially near the parotids, and for a fortnight had a carbuncle of no great size or violence, situated on the right buttock. On the three outermost toes on the same side, there existed an ulceration accompanied by a livid redness, from which there was a very abundant discharge of extremely fœtid pus.

Towards the middle of February, along with her other infirmities, Alexandrine Labrosse had stomatitis, (as had many other children in the hospital,) complicated with symptoms of enteritis. After this she grew daily more and more feeble, exhausted by an incessant diarrhœa.

She died on the 25th of March, 1831. Since her death, I have been positively informed, that she was addicted to the habit of masturbation. The sisters have also assured me, that she was subject to epileptic convulsions, and that a few moments before death, she had experienced a violent general convulsion.

Autopsy thirty hours after death.

External Habit.—Body lank and emaciated. Skin discoloured. Large slough over the sacrum. A small livid wound on the right buttock, occasioned by the incisions I had made. The three diseased toes had a blackish and gangrenous appearance. Scrofulous engorgements upon the neck.

Head.—Under the integuments of the cranium near the parietal protuberance of the right side, an ecchymosis existed about the size of a dollar. The cranium was rather thicker than usual. The meninges of the brain appeared healthy. The cerebrum appeared in a natural condition, except that it seemed to me comparatively very large. Dissected subsequently by M. Magendie, a small sanguineous effusion was found in the left posterior lobe, which did not appear to have existed long, and which was not more than two or three lines in diameter. The covering of the cerebellum being divided, the medulla oblongata cut at the occipital foramen, and the encephalic mass raised and inverted—the following appearances were observed:

A large quantity of serum was discharged, filling the occipital fossæ. In

place of the cerebellum, I found a gelatinous membrane of a semicircular form, attached to the medulla oblongata by two membranous and gelatinous peduncles. The one of these on the right side had been torn. Near these peduncles I found two small white isolated masses about the size of a pea. On one of these was found one of the branches of the fourth pair of nerves. The tuberculi quadrigemini were entire. On the posterior and inferior side there was the appearance of an erosion, in the midst of which the orifice of the canal of Sylvius appeared. It extended a little upon the medulla oblongata, making a slight alteration in the restiform, and in the olivary bodies. The fourth ventricle did not exist. There was no trace of a pons varolii, but without any appearance of want of substance. The anterior pyramidalia terminated in a fork by the cerebral peduncles.

Of the cerebral nerves, I could only find the origin of the first, second, third and fourth pair, which appeared in a healthy state, except the latter, which was, as I have said, detached with the small white mass, of which I have spoken. Not having raised the brain myself, it was impossible for me to find the origin of the other pairs. They all however, existed, and could be easily perceived through the openings of the dura mater. They have, moreover, been subsequently dissected by M. Magendie, and exhibited no peculiarity.

The cerebral substance was of the ordinary consistence, but the medulla oblongata appeared a little softened, especially about the erosion I have described, where there existed a kind of maceration. The occipital hollows were regularly formed, but appeared to me rather smaller then natural. The vertebral arteries existed. I cannot say how these were distributed, because they did not at first fix my attention.

Spine.—A considerable quantity of serum ran from the spinal canal. The spinal marrow offered nothing remarkable.

Chest.—Both lobes of the lungs crepitated, but their whole surface was covered with miliary tubercles, which were also found in the parenchyma. The cavity of each pleura contained two or three ounces of serosity. The pericardium and heart offered nothing in particular.

Abdomen.—The intestinal circumvolutions were of a deep red colour. The mucous membrane of the stomach exhibited a number of red dots on a slate coloured ground, and near the anterior part and great arch, there were five or six brown patches. In the middle of each of these, a small ulceration with elevated and perpendicular borders appeared. This membrane was otherwise of its ordinary consistence and thickness.

The mucous coat of the duodenum presented no ulceration. It was slightly red, and its follicles prominent. After this, throughout the whole tract of the small intestine, it was of a livid red colour, presenting numerous ulcerations, especially about the ileo-cœcal valve. The large intestines presented nothing in particular.

The mesenteric ganglions were larger than ordinary. The liver was of an extraordinary size, and of a pale colour.

The Organs of Generation.—The finger could readily be introduced into the vagina. The hymen did not exist. The labia were of a lively red colour, and bore the appearance of having been frequently irritated. The ovaries and uterus existed, but they appeared smaller than usual with girls of the same age.

The kidneys, spleen, &c. were in a natural state.

Conclusions.—This singular case is calculated to excite the particular attention of physicians of the physiological school, and presents no less interest for pathologists. I regret exceedingly, my inability to say any thing relative to the moral condition of this child previous to its entrance into the hospital, and am still in the expectation of receiving further information. Should any particulars be offered, I shall immediately communicate them.—*Bull. de la Soc. Anat.—Rev. Médicale, April*, 1831.

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9. *Extraordinary Case of Discharge of Oil from the Bowels, and Sugar from the Urinary Passages.*—A curious instance of this was related by Dr. Elliotson

in a late clinical lecture. It occurred in a man who, for three years, has discharged oil in large quantities from his intestines. The man is also labouring under diabetes, discharging sugar from the urethra, while from his rectum he daily pours forth an abundance of oil. The case must be very interesting to chemists, on account of such a double manufacture going on. Four of the first chemists in England have had specimens, which they have examined, and they found the discharge to be genuine oil. After a motion it flows from him liquid, and then it concretes. It swims in yellow flakes over the contents of the vessel, of the colour of unblanched bees' wax. A case of this kind is mentioned by Mr. Howship in one of his works; he says the lady took a pint of oil, and it immediately stopped the manufacture. I gave this man six ounces of sweet oil, said Dr. E. "not knowing what to do with the case, and trusting to the one recorded by Mr. Howship. He took three ounces, and was sick, he then took the other three, and they stayed down; and he has made very little oil since. He has phthisis into the bargain, so that he is producing three foreign substances—oil, sugar, and pus. Of course he must die. He has been inhaling chlorine with very great advantage: it has diminished the expectoration, and also the cough exceedingly, so that he has hardly any thing to complain of. He is sinking under the disease of his lungs, kidney, and intestines, but he will hardly allow that he now suffers at all. I may mention that I tried iodine for his phthisis, but it distressed him very much even in the most minute quantity; the chlorine, however, he bears perfectly well."—*London Medical Gazette, June*, 1831.

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10. *Influence of the Genital Organs on the Cerebellum.*—Baron Larrey, in his *Clinique Chirurgicale*, states, that "The genital organs seem to have a marked influence upon the cerebellum, for when they are removed by disease, or any other means, the occipital region of the cranium and cerebellum gradually experiences such a sensible reduction, that the occipital bumps, which had been more or less protuberant before, disappear, and the whole occipital region of the head is diminished in proportion. We have verified this change of dimension in a great number of soldiers, who had been operated upon for sarcocele, and when one testicle only was removed there was only a reduction of that portion of the cerebellum and occipital bump, which belongs to the same side, with the extirpated testicle."

A soldier, who had been wounded in the occipital region by a splinter of wood, was attacked with all the symptoms of inflamed cerebellum, and, in despite of every thing which was done, they were only dissipated by the appearance of an abscess in the nape, which opened spontaneously. In about three months after the accident he rejoined his regiment, and many years elapsed before he again came under Larrey's notice. He was then so extremely altered in appearance, that the author mistook him for a young conscript, who had been exhausted by some asthenic disease. He was 32 years of age, of middle size, but thin and pale, his eyes were depressed, his lips blanched, his hair, more especially that which covered his occiput, was thin and bristled, and a feeling of pain and coldness was always experienced in the back part of his head. He was beardless, his voice was feminine, and as some of the assistants were not without suspicion of his sex, a more minute examination was considered necessary.

"To our great surprise, (says Larrey,) we found his genital organs reduced to the size of those of an infant some months old. His penis was not more than five or six lines long, and two or three lines thick, it never exhibited any degree of erection, and his testicles were so wasted as scarcely to equal in size a small bean."

A Swiss soldier of the guards, named Granfort, fifty years of age, was received into hospital for an erysipelatous affection of the left side of the face, attended with habitual pain and weight of head, deafness of the left ear, and a great difficulty of speech. The pulse was febrile, and the strength was much

reduced. These symptoms were occasioned by a fall, which this man had sustained a few days before the appearance of the erysipelas. Emollients were externally applied; diluents and anodynes were internally administered. After some days fluctuation was felt, and a deep incision discovered a large abscess in the neighbourhood of the left mastoid process, which was denuded and carious in one point, where a communication had been formed between the internal ear, which was the seat of the abscess, and the external surface upon which it pointed. Five or six weeks afterwards the walls of this abscess were clean and began to heal; still, however, pains in the occiput, a sense of weight in the head, and considerable difficulty in keeping the head from falling towards the affected side, were complained of. He seldom spoke, and when he did he articulated badly. The integuments covering the occiput were very sensible, the arm and hand of the left side were threatened with palsy, but his mind was completely undisturbed. After two months convalescence this soldier fell into a state of lethargy, and died twenty-four hours afterwards. On inspection the dura mater appeared of a deep brown, the arachnoid was opaque and in some parts of a dull white, these membranes and the cerebral mass were filled with turgid blood-vessels, the consistence of the brain was firmer than natural, the lateral ventricles contained some colourless fluid, three spoonfuls of pus were found in the cerebellum, the right lobe was diminished, and the medullary substance forming the arbor vitæ was dense and of a gray colour. The purulent matter was effused underneath the pons varolii and into the lambdoidal fossa, where the carious opening lay which communicated with the internal ear, and around which the membranes had contracted adhesions. "The scrotum and penis were so reduced from their primitive volume, that one might consider them as being in the second stage of atrophy."

"John Baptist Dandé, aged 26, of a scrofulous habit, who had been formerly under treatment for diseased spine, was attacked with pains in the left testicle, which swelled, and obliged him to apply for relief. It was at first regarded as a consequence of suppressed gonorrhœa, although the soldier denied that he ever had any syphilitic symptoms, and he was treated in accordance with this view. The tumefaction of the testicle increased however, and extirpation of this organ was at length determined on. After two months the cure was supposed to be complete, and Dandé rejoined his regiment; but in about six months afterwards the other testicle became attacked with symptoms of a similar character to those which had been experienced formerly, and every effort to resolve the swelling and to save the organ being made in vain, the appearance of symptomatic fever and other malignant tokens of inveterate disease suggested the necessity of a second operation. No disagreeable symptoms followed—

"But, one remarkable thing is, that the nape now appears sensibly depressed, that the occipital bump, corresponding with the testicle first amputated, is much smaller than the right. The body is likewise emaciated, the beard and mustaches are nearly fallen off, and, in fine, it is obvious that the total loss of the genital organs has had a very marked effect upon the cerebellum, since the occipital region offers a profound and anormal depression—the consequence of atrophy, which also affected all the bones of the skull, the skin covering the face, and the beard."—*Medico-Chirurgical Review, July*, 1831.

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11. *Atrophy of one-half of the Encephalon.*—In our seventh volume, p. 224, we noticed an instance of this reported to the Anatomical Society of Paris, by M. Bodet; we learn from the *Rev. Médicale for June*, 1831, that an entirely similar case has been since communicated to the same Society, by M. Bell.

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12. *Function of the Optic and Olfactory Nerves.*—M. Vidal has communicated to the Anatomical Society of Paris, a case of fungous tumour of the dura mater at the base of the cranium. The optic and olfactory nerves were compressed and destroyed by the tumour, whilst the fifth pair remained perfectly unaffected.

Vision and the sense of smell were destroyed. This fact confirms certain experiments of M. Majendie, from which it results that if the trifacial nerve is necessary to vision, at least it cannot be considered as the exclusive organ of this function. It also tends to prove, in opposition to the opinion of the celebrated physiologist just alluded to, that the olfactory nerve enjoys the same prerogatives as the optic, in relation to the sense to which it transmits impressions.—*Compte rendu des travaux de la Soc. Anat.—Rev. Méd. June*, 1831.

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13. *Extra-Uterine Fœtation.*—Professor Chaussier is of opinion that the development of the uterus, and the secretion of the membrana decidua are phenomena inseparable from extra-uterine pregnancy. Various observations have shown that this opinion is too exclusive, and the point may be now considered as settled, M. Gaussail having recently met with the uterus in its ordinary condition in a female gone her full term, with an extra-uterine fœtus.—*Ibid.*

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14. *Pulsation in the whole Vascular System.*—Dr. David Badham of Glasgow, has communicated to the editor of the *London Medical Gazette*, the case of a man affected with paralysis of the right side, in whom the following very interesting peculiarities of vascular action presented themselves.

"1st. The whole *venous system* of vessels was observed to pulsate. On looking attentively at any of the superficial veins on the hand, arm, or elsewhere, it was quite evident that they moved, and in that wavy manner which has several times been noticed in the jugulars, but very rarely, I believe, over the system generally. The jugulars themselves were seen to dilate and contract alternately, much in the same way that a leech is observed to do when sucking.

"As to the arteries: 1st, the minutest twigs of this system of vessels are observed to pulsate. I cannot give a better idea of the extent to which this phenomenon has proceeded than by mentioning, that the small branches of the coronary artery of the mouth may be seen and felt to pulsate over the nose and up to the inner canthus of the eye; that in consequence of this inordinate action in vessels of so small a calibre the surface of the whole skin seems alive; that so enormous (for that is the word) is the impulse of the carotids and subclavians, on the paralysed side particularly, that at each pulsation the patient seems to receive a shock as if he were slightly electrified. 2. The arterial action of the paralysed side is nearly twice as strong as that of the other, affording a striking evidence of the independent action of the arteries. 3. The *thrilling purr* is most distinctly felt over the subclavians and carotids of both sides, but best on the side where the arterial action is least: on grasping the wrists of the patient within my hand, I also seem to recognise it in the pulse. This purr, according to Laennec, never occurs alone, but is always accompanied by the "*bellows blast;*" accordingly, 4thly, over whatever artery the cylinder is placed, a *bruit de soufflet* is heard: this, in the larger vessels, was always more perfect on that side where the arterial action was least, but it was easily produced in full perfection on the other by simply compressing the artery from above, and so diminishing its action; so that we may infer from this, that too much action in the arteries is destructive of this phenomenon. The bruit de soufflet is loud over the radial, ulnar, and other less considerable arteries; it is also attended with a sort of chirping, particularly at the right side. It extends likewise to the heart. The action of this organ is moderate and normal. A well-marked bruit de râpe, synchronous with the pulse, is heard over the third rib of the right side, near its junction with the sternum. As there is no deficiency in the natural impulse of the right ventricle of the heart, so there is no evidence of there being dilatation of this side; and we have here the remarkable phenomenon *of pulsation of the jugulars, without* this organic lesion of the heart, with which all writers on this subject have held it to be inseparable."

A case, the reverse of this, in which there was dilatation of the right auricle, without jugular pulsation, will be found in our department of Pathology, p. 203, No. 18.

PATHOLOGY.

15. *Remarkable Instance of Hæmorrhagic Tendency in a Family.*—Dr. Riecken, a German physician, in a recent work, has given an account of a very remarkable hereditary transmission of the *hæmorrhœal diathesis* through several individuals in a family. The father of this family, Ernest P. was a husbandman and joiner, who had always enjoyed good health, and at the time of the publication of Dr. Riecken's work, in 1829, was in his eighty-sixth year. His second wife, by whom he had the children to be mentioned presently, was of delicate health. In her thirtieth year she was attacked with rheumatic gout, and, after this ceased, with curvature of the spine, asthmatic complaints, and frequent pain under the breast bone. Bye-and-bye signs of water in the chest came on, general dropsy followed, and she died of that disease in her sixty-sixth year. Neither the wife nor the husband was ever subject to hæmorrhage, or to petechial spots. This couple had twelve children, five sons and seven daughters, of whom four died of small-pox, one of eclampsia, and three boys and one girl of hæmorrhagy.

William Louis, one of the three boys, enjoyed good health till his fourth year, when he was attacked with bleeding from the left nostril, which continued, with occasional intermissions, for eight days, and was only arrested by stopping up both nostrils firmly with the *Boletus igniarius*, (zündschwamm.) Two days afterwards, he was seized with anxiety and a sense of constriction in the præcordia, attended by swelling and tenderness there, then with cold sweating and deadly paleness, and at length with vomiting of black fluid blood, which repeatedly returned, and proved fatal in the course of a week.—In another of the boys, John Christian William, blue spots, unattended with pain, frequently broke out on the skin between his first and eleventh years, but were not accompanied by hæmorrhage. In his tenth year he was attacked with violent rending pain in the extremities, more especially in the limbs, which abated in a month and a half, after a hard tumour formed on the left knee. This tumour had been present for a year and a half, when he was suddenly seized with violent tooth-ache in the foremost grinder of the left side of the lower jaw, and the pain was so excruciating that he consented to the extraction of the tooth. The tooth was quite healthy. A gush of fluid blood immediately took place from the cavity, and nothing could check it. The poor boy gradually became blanched like wax, and expired on the eighth day.—Philip Henry, the third boy, presented the appearance of blue spots on the skin, particularly of the buttocks, even during the first year of his life, yet without any signs of weakness. When a year and a quarter old, he died while vomiting fluid blood which had begun the day before, without any previous appearance of ill health. The daughter died four days after birth in consequence of hæmorrhage after the division of the frœnum of the tongue.

The same striking constitutional infirmity likewise appeared among the grandchildren of Ernest P. born of his youngest daughter, Louisa Catherine. This woman, who is still alive, and in the thirty-second year of her age, is short in stature, and light haired, has gray eyes, and a delicate, fair complexion. She never had purple spots, or exhibited any tendency to hæmorrhage; nay wounds, and even apertures in veins made by the operation of blood-letting, healed in the usual manner. The menses commenced in her thirteenth year, and were usually rather abundant, and of eight days' continuance. She suffered much from tooth-ache and neuralgic affections of the extremities, was indeed seldom altogether free of wandering pains, and in her pregnancies was so much affected by a tendency to plethora that it was frequently necessary to withdraw blood. The blood coagulated more slowly than usual, was very dark, contained much serum, and presented a thin buffy coat. The hæmorrhage immediately after delivery, as well as the lochial discharge, was always profuse. Her husband is a stout, healthy man. They have had six children, four boys and two

girls, of whom only the eldest girl and youngest boy are now alive. The remaining girl died of convulsions when nine months old, and the three boys of hæmorrhage. The surviving girl is very healthy, and never had either blue spots or bleedings.

The four boys were all born easily, and the navel healed up without hæmorrhage. They all had a disproportionately large head, with unusually loose sutures, and fontanelles of uncommon size and slowly filled up. Their bodies were delicately and regularly formed, the nails were of the natural appearance, the skin fair and delicate, with the veins shining distinctly through, and the countenance pale, sickly, and bloated. They had all blue eyes, and one of them fair, but the three others black hair. Dentition went on in all in the usual manner. They were very lively, of mild dispositions, and the eldest showed much cleverness. The operation of vaccination, which was performed by incisions, was not followed by any untoward effects. All had from birth a very fetid discharge of a white, flaky, puriform mucus from each ear.

The eldest of these boys manifested a distinct tendency to hæmorrhage in the seventh month: dark, irregular spots appeared on various parts of the skin, varying in size from that of an *achtgroschen* piece to that of half a man's hand, and without any external injury; and these were at first pale red, but as they increased in size rapidly became bluish-black, and then reddish-blue, bluish-green, and dirty-yellow as they were disappearing. At times the body was entirely covered with them. They were attended with hardness and swelling, but not with pain. The first attack of hæmorrhage occurred in his first year in consequence of his having bitten the tip of his tongue, and it was not arrested till various artificial means had been tried in vain, and nature accomplished it after the child was reduced to the lowest possible state of exhaustion. When he was eighteen months old a second attack took place in the form of epistaxis, which was not checked till he was almost at the point of death; when it ceased under the use of the acid elixir of Haller and laudanum, and during the deep sleep which supervened. On his awaking, general convulsions attacked him; then deep sleep returned, and after this he awoke refreshed, and soon recovered. From this period till he was four years and a half old, he had regularly every three months an attack of epistaxis from the left nostril, which continued between four and ten days with occasional intermissions, and was preceded by lancinating head-ache, sounding in the ears, excitement of the pulse, flushing of the face, and lividity of the lobes of the ears. The blood was dark red, thin, without tendency to coagulation, and towards the close of the paroxysm pale dirty-red in colour. The hæmorrhage never ceased till the child, after repeated fainting fits, was brought almost to the point of death. In his fourth year he complained much of shifting pains, particularly in the left thigh, which were particularly troublesome before the customary bleedings or on any change of weather, but became much less so on a swelling of the knee-joint making its appearance. The swelling confined him for some time to bed; but it was diminished by proper remedies; upon which a fresh attack of hæmorrhage occurred; and after this the pains ceased. The child, however, was pale and exhausted, and in two days he died with all the symptoms of inflammation of the bowels. Sulphate of soda had no effect in checking the hæmorrhagies in this case.

In the second boy, the blue spots began to appear fourteen weeks after birth. When ten months old, a furuncle formed in the right arm-pit, which was carefully opened. At first pus alone issued; but afterwards violent hæmorrhage ensued, which continued for three days, notwithstanding the constant use of tents and compresses dipped in alum. After the lapse of nearly three-quarters of a year, an almost fatal hæmorrhage followed a trifling injury of the frœnum of the lower lip; and this was not checked till on the third day the actual cautery was resorted to. After this, with the exception of the blue spots, the child was healthy, and became plump and strong. But when two years and a half old, plethoric symptoms began to show themselves as in his older brother's

case; and he was attacked with pleuro-peripneumony. Dr. Riecken avoided all evacuations of blood, and brought him through his illness by other antiphlogistic remedies. Suddenly, however, after a return of fever, copious bleeding took place from both nostrils, for which all the usual means, including Glauber's salt, were in vain put in requisition; and it was not till the child had repeatedly fainted, and was as pale as a corpse, and till the blood had in the end flowed for six hours as pale as bloody serum, that the hæmorrhage ceased spontaneously. Half a year afterwards he was attacked by flying pains in the extremities, followed by swelling in the left ankle, and, when this disappeared, by swelling in the left knee. Recovery, however, was gradually so far accomplished, that the child could walk again, when, in an accidental fall, a small wound not larger than a pin's head was inflicted on the point of the tongue. Profuse hæmorrhage commenced, and for five days it continued, although every conceivable remedy was tried, including three applications of the cauterizing iron, till at length the breathing and pulse ceased, the skin became icy cold, the eyes lost their lustre, and death was believed to be at hand. After a time signs of animation appeared; the hæmorrhage was found to have ceased, and the child became convalescent. In fourteen days he began to complain of occasional stitches under the ribs of the left side, accompanied with dry cough: and during a fit of coughing, blood began to gush from both nostrils. The blood was fluid, thin, brownish in colour and fetid. It continued to flow in spite of every remedy which could be thought of, and the little patient soon died slightly convulsed.

The third boy, in consequence of the frœnum of the tongue being unskilfully divided, was attacked when three months old with profuse hæmorrhage, which lasted for three days, and only yielded after repeated applications of the actual cautery. The blue spots did not begin to show themselves till the sixth month. The plethoric symptoms observed in the two former cases appeared also in the present instance about the thirteenth month, and especially some weeks before his death, which took place after an attack of hæmorrhage of two days' continuance, occasioned by an injury of the tip of the tongue with an incisor tooth. On this last occasion repeated cauterization was of no use.

In the youngest boy, who is still alive, a chronic, itchy eruption of the face was added to the discharge from the ear, which he had in common with his brothers. Blue spots began to appear on the skin four months after birth. But subsequently to the administration of ass-colt liver-oil (!) to the mother, both the eruption and the livid spots disappeared. Whenever the mother intermitted the oil the spots reäppeared; and whenever she resumed it, the discharge from the child's ear dried up, the spots ceased to form; nay, on one occasion he sustained a wound of the ring finger with a sharp knife, yet the hæmorrhage was not greater than in other children. Subsequently a furuncle on the shoulder was opened, and a second time a wound accidentally inflicted without any particular hæmorrhage. The further history of this case is not given.

Besides the mother of this family, Ernest P. had two other daughters, who, together with their families, never suffered from hæmorrhage or ecchymosis; but they were very liable to gout, rheumatism, chronic abscesses, and eruptions. Among his ancestors and collaterals there was no one ever liable to hæmorrhage; nor can the least relationship be traced between his family and any of the previously ascertained instances of families possessing this constitutional infirmity.

The author in his general remarks seems disposed to ascribe the constitutional hæmorrhagic diathesis to a gouty taint; but this is surely an erroneous idea, otherwise it ought to be much more frequently met with. In the present, as in every previously recorded instance, it is very remarkable that the infirmity was confined to the male branches of the family, and that, nevertheless, it was transmitted through the female branch to the males of the next generation.—*Ed. Med. and Surg. Journ. July*, 1831, *from Medizenisch-Chirurgische Zeitung, Nov.* 15, 1830.

16. *Case of General Emphysema produced by Combustible Gas.*—The following case was presented to the Royal Academy of Medicine by M. Bally. A man, twenty-five years of age, was admitted in the Hopital Cochin on the fifteenth day of typhoid fever. He complained of violent pain in the left thigh, which, as well as the scrotum, was swelled; and in his delirium he talked of having been bitten in the knee by a dog; but no information to this effect could be procured after a diligent inquiry. He died on the day after admission; and in eight hours the body was examined.

Blood had issued from the nose, and from the surface of the skin of the thighs and head, where the cuticle had been stripped. The whole body was emphysematous, but especially the left leg. This was twice its natural size, had a brownish-violet colour, and was extensively covered with black and white phlyctænæ; and a reddish serosity, mixed with air-bubbles, issued from the black ones. This limb resounded when struck, and crepitated when handled. The belly was much distended with gases. The face and temples were livid; and when the skin there was divided a great deal of reddish-black blood issued. The brain and lungs did not present any unnatural appearance; the heart was pale and empty; the intestines presented the usual organic derangements observed in typhus, (enlargement, induration, and ulceration of the glands of Peyer and Brunner.) Bubbles of air filled the vessels of the pia mater and left saphena vein. The lymphatic glands of the mesentery were enlarged, and contained a gas which took fire at a candle and exploded. The same phenomenon was witnessed after scarifications of the legs, thighs, and scrotum. A puncture having been made in the belly, the gas which issued took fire also, and formed a flame blue at the base, white at the apex, and which burned for some time. The combustion likewise extended to the edge of the opening made with the trochar; and the edges became black and were consumed, so that the aperture was rendered of twice its previous diameter. The gas contained in the subcutaneous cellular tissue was inflammable like that in other parts.

M. Bally considers that this evolution of inflammable gas was not a phenomenon which occurred after death only, and puts the question, whether the case throws any light on the spontaneous combustion of the human body?—*Archives Générales, Jan.* 1831.

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17. *On the Respective Prevalence of Pneumonia at different Ages, and in the Two Sides of the Chest.*—M. Lombard has given an account in the *Archives Générales*, for January last, of some very interesting investigations made by him into the respective prevalence of pneumonia in the two sides of the chest, and his results show that in France the right lung is more frequently affected than the left. We take the following analysis of his labours from the Edinburgh Medical and Surgical Journal.

Uniting all the cases collected by Chomel, Andral, and himself, he finds, that in 968 patients 195 had the disease in both lungs, 260 in the left lung, and 413 in the right; so that for 455 attacks of inflammation of the left side there are 673 of inflammation in the right. Various explanations have been proposed of this fact. Some have ascribed its occurrence, more especially in young children, to the right being the side on which most individuals lie in bed; though how this circumstance should have the effect of predisposing to pneumonia we confess it is not easy to perceive. Others have ascribed it to the greater muscularity of the right side of the body; but this explanation is evidently inadequate, since M. Lombard clearly establishes that the difference between the two sides in liability to inflammation is at least as great in females as in males, and in young children as in adults. M. Lombard, on the other hand, considers that the explanation ought rather to be sought for in the anatomical structure of the organs; and he thinks that the difference in the size of the arteries sent to each side will account for the fact. "After the pulmonary artery," says he "has crossed the direction of the aorta, and has reached the level of the second dorsal vertebra, it divides into two branches, of which the right branch is the

larger and more directly transverse in its course, so that more blood must pass along it than along the left division in the same interval of time. The functional activity of the right lung is therefore greater than of the left lung; and it is well known that the frequency of inflammation is in the direct ratio of the functional activity of the organ. Such at least is the only plausible hypothesis which can be formed in the present state of science."

Several late authors have thought that pneumonia is more frequent in adults than in the young. But M. Lombard has been led to a different conclusion; which is, that it is most frequent in infancy, and in old age, and least frequent in the prime of life. The data on which he rests this statement are taken from various public hospitals. From the pathological examination of 206 infants between one day and eighteen months old, of 118 children between eighteen months and fourteen years, and of 1284 persons of different ages between fifteen and eighty-three, he infers, that pneumonia forms 3-17ths of all the organic derangements found in infants, who have died during the first eight days—that in the second week it forms 2-9ths—in the third week 3-10ths—between the sixth week and the end of the second month 2-9ths—between the second and sixth month 1-10th only. In the second year it increases again to 1-3d; from the second to the sixth year it forms between a fourth and a fifth; from the eighth to the eleventh between a fourth and a sixth; from the fourteenth to the nineteenth only 1-37th; from the nineteenth to the twenty-seventh about a ninth. From this period till the age of forty-seven the proportion is only a fifteenth; from this till the age of seventy-five a fourteenth, and above this an eighth.

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18. *Aneurism of the Right Auricle without Jugular Pulsation.*—It is believed by some pathologists, that pulsation of the jugular veins is always present in cases of aneurism of the right auricle. Mr. Badham, however, of Glasgow, relates in the *London Medical Gazette*, for May last, an instance of hypertrophy, with dilatation of the right auricle, in which this symptom was not exhibited. The subject of this case was a man of seventy-five, of strong constitution, who died of dropsy. The right auricle was enlarged to twice its natural capacity and thickened, and the ventricle of the same side was moderately dilated; the left auricle was similarly affected with the right and to the same extent, but there was no valvular disease, or narrowing of any of the cardiac orifices, and the left ventricle was quite healthy. This case is further interesting, not only from dilatation of the auricles being a rare disease, but also as disproving the assertion of Laennec, that it is the consequence of disease of the corresponding ventricle, or of the valves.

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19. *Case of Hydrothorax in a Child fifteen months old.*—M. Lichtenstadt relates in a late No. of *Hecker's Annales*, the case of a child fifteen months of age, and well-formed, who, without any appreciable cause, was suddenly attacked with oppression of the chest and great anxiety; strong and irregular throbbing of the heart; inability to remain in a horizontal position. The little patient died in a few hours. Upon dissection, both sides of the chest were completely filled with a limpid fluid; there was also a similar effusion within the pericardium. Neither the pleura nor the pericardium presented any signs of inflammation. Nothing remarkable was observed in any other part of the body.

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20. *Enormous dilatation of the biliary ducts.*—M. Berard has met with a case in which the biliary ducts were enlarged from twelve to fifteen times their natural size in the parenchyma of the liver. The patient had neither icterus nor obliteration of the ductus choledocus, but the biliary ducts contained many calculi.—*Rev. Méd. May and June*, 1831.

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21. *Rupture of the Liver and Heart from a fall.*—M. Dehanne has communicated to the Anatomical Society of Paris, the case of a woman who died in

consequence of a fall from an elevated place. On examination the surface of the liver was found torn in many places, the tissue separating the two auricles of the heart, broken; and the left auricle torn to the extent of some lines.—*Rev. Méd. June*, 1831.

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22. *Fatal Hæmatemesis.*—M. Richard has met with a case of hæmatemesis in a young man addicted, since infancy, to the use of spirituous liquor, which proved speedily fatal. On examination, an ulcer was found near the cardiac orifice of the stomach, at the base of which the coronary artery of that organ was observed, opened by erosion, and from which of course the blood had flowed.—*Ibid.*

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23. *Diffused Gangrene of the Lungs.*—Of this disease, Laennec met with but two instances, and therefore supposed it to be of rarer occurrence than it would seem to be from the researches of subsequent pathologists. During the past year M. Bergeon communicated to the Anatomical Society of Paris, three cases of it. Five or six cases of circumscribed gangrene of the same organs, have also been related to that Society.

M. Cruveilhier considers as one of the pathognomonic signs of this disease, the expectoration of extremely fœtid sputa, sometimes mixed with blood, supervening shortly after symptoms of acute pneumonia.—*Ibid.*

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24. *Melanosis.*—M. Cruveilhier has, several times last winter, met with a peculiar species of this disease in the lungs. A specimen exhibited to the Anatomical Society of Paris, presented a filtration of a grayish-black colour, occupying a considerable extent of the lungs; in the infiltrated parts, the parenchyma of the organ was softened, pultaceous, reduced to a vascular net-work, and very readily tearable.—*Ibid.*

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25. *On Obliteration of the Veins as the Cause of Œdema or Partial Dropsy, particularly in the Lower Extremities.*—Some very interesting observations on this subject, by M. Corbin, Physician to La Charité, are inserted in the *Archives Générales*, for April last. Various authors have indicated obstruction of the veins as the cause of certain partial dropsies, but the experiments of MM. Rayer and Bricheteau, who tied the principal venous trunks without any effusion being produced, seemed to have raised some doubts whether obstruction of the veins did in general give rise to dropsy. M. Bouillaud, in two valuable memoirs in the Archives for 1823 and 1824, completely established the fact, that dropsy does sometimes depend upon this cause, and he adduces cases in which obstruction of the abdominal vena cava gave rise to œdema of both lower extremities; obstruction of one iliac or femoral vein, to infiltration of one limb; that of the vena porta, to ascites; of the superior cava or of the larger trunks which join it on the right or left side, to infiltration of the whole face and upper extremities, or to one-half of the face and one arm. In this theory, Mr. B. includes passive dropsies alone, and not phlegmasia dolens.

M. Corbin's object is to illustrate one point only of this question, viz. where one inferior extremity alone is infiltrated, or a great deal more infiltrated than the other. Mr. C. has collected twenty cases in illustration of this point, seven of which he relates, and he thinks that they establish the proposition, that when one limb is infiltrated to a certain degree, and for a length of time, there is always a material obstacle to the circulation of the blood through the veins in that limb. Passive infiltrations, it must be remembered, alone are here referred to, and not phlegmasia dolens, nor that infiltration which coëxists with certain erysipelatous inflammations, or that which follows these and other exanthematous diseases. Mr. C. states, that as far as his experience extends, it would not be justifiable to refer these last forms of œdema to obstruction of the veins, though future experience may show that they also are induced by the same cause.

Our readers know that M. Velpeau, Dr. Lee, and others, attribute phlegmasia dolens to obstructions in the iliac veins, and have adduced some facts in support of that opinion. We look upon this point, however, as yet unsettled.

The obstacle which impedes the circulation of the blood in the veins, may be of various kinds. Thus, a tumour situated in the course of the vessels, or the impregnated uterus, may produce the same effect as sanguineous concretions formed in the vessels, but most commonly it is these last that we find to be the cause of the obstruction.

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26. *Remarkable Case of Dropsy.*—Mr. Fothergill, of Selby, relates in the *North of England Medical and Surgical Journal*, for November, 1830, a case of dropsy occurring in a married lady, twenty-two years of age. This patient was attacked in 1813 with pain in the abdomen, and in the region of the kidneys, accompanied with that kind of constitutional irritation which usually attends diseases of the uterus. Her general health suffered, and the digestive organs were considerably disordered. The operation of paracentesis was had recourse to for the first time on the 11th of October, 1815, and between this and the 5th of December, 1828, it was performed one hundred and fifteen times, and upwards of seven hundred and ninety-four gallons of water drawn off. The patient died on the 11th of December, 1828. On examination, her uterus was found enormously enlarged, and full of hydatids.

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27. *Case of Momentary Suspension of Muscular Contractility and Sensibility—Disease of the Superior longitudinal Sinus.*—M. Gintrac, of Bordeaux, in an interesting volume of memoirs and cases recently published by him, relates a very curious case of a child four years of age, who was subject to attacks of momentary suspension of voluntary motion. These attacks came on suddenly, without premonition, sometimes occurring whilst the child was playing; at others when she was in bed. They were not preceded or accompanied with any spasms or frothing at the mouth. The child suddenly lost, in severe attacks, all power over the muscular actions, and if standing, fell down, or if lying, became incapable of motion. The sensibility was also diminished. The senses were slightly weakened, but was still sensible to external impressions. The eyes were open and immoveable; her hearing was preserved; she also retained in part her intellectual faculties. In slight attacks she would endeavour to perform muscular movements, generally in vain. Thus, when food was presented to her, she would endeavour to take it, and would fret and cry at not succeeding. The duration of the attack was variable; it rarely however continued longer than a quarter of an hour. The intervals between the attacks was also very variable. Sometimes she had several paroxysms in a day, at others there was an interval between them of two weeks.

This patient died in 1828 of measles, and on post mortem examination, the principal abnormal structure found, was in the superior longitudinal sinus, beneath the sagittal suture. Its parietes were thickened, dense, and yellow; they resisted and crepitated under the knife, they were distended by a sort of blackish coagulum, in the centre of which more fluid blood was found. Between the coagulum and the parietes of the sinus, there was a yellowish concretion, of a fibrous appearance, and of near a line in thickness. The internal membrane of the sinus was redder than common, and presented, in a very marked degree, the reticulated structure, which it commonly possesses; there was no other contraction in the remainder of this sinus. The other sinuses were slightly engorged; the cerebral vessels were somewhat engorged, especially in the upper and right portion of the brain, and in the vicinity of the diseased sinus.—*Archives Générales, May*, 1831.

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28. *Pathology of Erysipelas.*—One of the late numbers of the *Journal Complementaire*, contains some interesting remarks, by Dr. Corbin, illustrative of the history of erysipelas. As we do not receive that Journal, we transfer to our

pages the following notice of Dr. Corbin's memoir, from the London Medical and Physical Journal.

"The principal objects Dr. Corbin has in view, are to offer a few comments upon certain forms of erysipelas which appear to deserve especial attention; to describe the state of the gastro-intestinal mucous membrane, in a certain number of persons who died of the disease; and also to adduce some examples in which erysipelas exerted a remarkable influence over other concomitant maladies.

"Phlegmonous erysipelas is frequently complicated with gangrene, but the latter condition arises in different ways. Mortification of the skin is generally consecutive to destruction of the subcutaneous cellular tissue: and in this case we can detect, before gangrene takes place, some signs of fluctuation, and, if the disease be abandoned to its course, ulceration occurs, and shreds of the cellular tissue, mingled with pus, are discharged; the external integuments are destroyed, and the muscles or aponeuroses are laid bare. In such instances, free incisions, if made at an early period of the disease, may prevent mortification, and, if at a later stage, they may limit its extension. The parts do not assume a black appearance, nor is there any gangrenous odour. In other, and less common cases, to which alone ought to be applied the term of gangrenous erysipelas, the gangrene commences in the skin, and is preceded by the appearance of phlyctænæ, or by the black and livid tint, and peculiar odour, of this class of disease. Here incisions have always appeared useless, and when they have been made, the edges of the wounds suffered more from gangrene than the other parts. Erysipelas of this last mentioned species is usually very severe: it is characterized from the commencement by prostration of strength, and is almost always quickly fatal. Such cases are, fortunately, rare. Thus, in erysipelas of the limbs, in nine cases out of ten, gangrene takes place after the suppuration and destruction of the cellular tissue. We frequently see pure phlegmonous erysipelas arise in the scrotum, and a part of it destroyed by mortification. Upon the face and hairy scalp, gangrenous erysipelas (confining the term to its proper limits,) is rarely seen; and when it does occur, the skin always mortifies after suppuration of the subcutaneous cellular tissue. This fact is illustrated by the following case, which is also interesting in some other respects.

"A man, forty-eight years of age, after having drank very hard, received a sabre wound, three inches long, upon the left parietal bone. He was admitted the next day, (March 3d,) into the Hôtel Dieu. Attempts had already been made to promote the immediate reünion of the divided parts, although, from the appearance of the wound, they were not likely to succeed. The adhesive plasters, which had been employed, were removed, and the lips of the wound were separated: the bone was not exposed, but at the anterior part of the wound, which approached the coronal suture, the fibres of the aponeurosis of the occipito-frontalis muscle were denuded. The edges of the wound were laid very gently together, and, as erysipelas was at that time very common, cold lotions were ordered, and twenty leeches were applied to the neck.

"On the 4th, the face was rather swollen.

"5th. Slight erysipelatous appearance on the right eye. Cold lotions continued; blister to the neck. The erysipelas continued to extend, but before it had reached its highest degree of severity, it disappeared entirely.

"On the 9th, there was seen at the bottom of the wound a yellow-looking substance, which was found to be the aponeurosis already mortified. The patient complained of being dull and heavy, and of a sensation of weight in the head, which was so painful that he could scarcely bear to rest upon his pillow.

"11th. Manifest fluctuation at the back part of the scalp, and extensive separation of the scalp from the bones. The abscess was opened, and a small quantity of pus was discharged. Much relief followed, and the following days no remarkable symptoms occurred. Mortification of the aponeurosis still continued, and shreds of yellowish-looking fibres were, from time to time, separated

from it. The patient still continued drowsy, but could obtain no sound sleep. Inflammation of the membranes of the brain, with violent fever, convulsions, and great prostration of strength, soon came on, and the patient sank, and died in a few days.

"Upon dissection, the lungs were found engorged with blood, and appearances of chronic gastro-enteritic inflammation were detected. Upon the outside and upper part of the cranium, the cellular tissue between the bones and the aponeurosis was entirely destroyed. The surface of the bones was covered with a sanious discharge, and exfoliation of them had commenced. The pia mater was inflamed and thickened, and between this membrane and the arachnoid there was an effusion of pus.

"This case is remarkable, not only on account of the progress of the erysipelatous inflammation, but it shews also that a wound on the head may remain open, although the bones are not denuded. If the occipito-frontal aponeurosis is exposed, it exfoliates like a tendon, and often in a very gradual manner.

"Cases of erysipelas are occasionally seen, which appear to be intermediate between the superficial and phlegmonous forms of the disease. In such instances, there is but little swelling, no collection of matter, to any great extent, under the skin, but here and there small insulated abscesses. In a patient named Mainvielle, after an attack of erysipelas of the face and scalp, several small abscesses formed in the neck, behind the ears, and upon the cranium. In another patient, after a similar attack, accompanied with enormous swelling of the face and scalp, an abscess formed upon the right upper eyelid, and numerous small collections of matter, from the size of a filbert to that of a cherry-stone, also formed upon the scalp. These abscesses remained for a long time very hard; some of them disappeared spontaneously, and others were opened, and healthy pus was discharged from them.

"External erysipelas frequently disappears from one part, while at the same time the disease attacks a more or less distant region of the body. Thus, in a man named Tessier, who was admitted into the Hôtel Dieu, erysipelas of the leg and foot disappeared when the face became the seat of the disease, and the parts originally affected were again attacked when the face recovered. Erysipelas also frequently exercises a revulsive influence upon internal diseases. A young man was attacked with acute pulmonary catarrh: he was bled frequently, but without decided advantage; he was much oppressed, skin hot, pulse hard and quick. He was attacked with erysipelas of the nose, which quickly extended to the face and scalp. The feverish symptoms increased, and he became delirious. Leeches were applied to the neck, and he was bled in the foot; in a few days the erysipelas disappeared. From the time that the external inflammation appeared, and while it lasted, the patient breathed freely; there was less expectoration, and, in fact, there was every reason to believe that the bronchitic affection had ceased. It might at first have been presumed that this diminution of the symptoms depended as much upon the repeated abstraction of blood, as upon any revulsive influence of the external inflammation: but no sooner had the erysipelas ceased, than the cough, oppressed breathing, and other indications of bronchitis, reäppeared with increased severity, and it was again necessary to have recourse to venesection.

Phlegmonous erysipelas of the lower extremities, of the most severe kinds, is very often produced by the slightest external causes: either from excoriations, slight wounds, the neglect of old ulcers, or by applying stimulating remedies to them; and sometimes simple contusions are sufficient to produce the disease, as in a man named Wivet, among other similar instances, who died in three days of erysipelas, in consequence of falling upon his knee. Sometimes no external cause can be detected.

When we oppose to these cases numerous instances of other patients, placed in the same circumstances, or even affected, during the same season, with much more severe external lesions, and in whom, notwithstanding, no erysipelatous disease is developed, we must presume that, in the former, there existed some

peculiar disposition, or, to speak less vaguely, a lesion of some important organ, and particularly of the abdominal viscera. The idea is confirmed when we detect a red and dry tongue, head-ache, sensibility in the epigastrium, an inflated state of the belly, diarrhœa, or enlargement of the liver: but the results of dissection in eleven fatal cases of erysipelas, afford the most satisfactory proof of the accuracy of this opinion.

"In the first, a patient named Tupin, the mucous membrane of the stomach was nearly of a black colour, and softened throughout the region of the pylorus: the commencement of the duodenum exhibited the same appearances. Almost the whole of the small intestines, to within an inch above the cœcum, was of a deep violet colour. In the large intestines, some of the glands were hypertrophied, and appeared like small pustules.

"In the second case, a patient named Pflüg, stomach highly coloured in different parts, with patches of a red and brown appearance; the colon, throughout its whole extent, of a deep red colour.

"Case III. Duranton: Appearances of chronic inflammation of the stomach and duodenum, characterized by reddish tubercles; rectum distended with fæces.

"Case IV. Leerbier: Peritoneum of a red colour, with serum. Stomach, patches of brown and black colour. Duodenum, a circular ulceration, about the size of half a crown.

"Case V. Scheier: Mucous membrane of the stomach softened, and of a dark slate colour; the submucous cellular tissue of the duodenum deeply injected; red patches in the cœcum.

"Case VI. Wivet: The mucous membrane of the stomach and duodenum softened, and of a gray colour, throughout nearly its whole extent.

"Case VII. Debry: In the stomach, near the cardiac orifice, was found a smooth hollow tumour, the size of a small renette apple, containing bloody serum. The whole surface of the stomach of a dark colour.

"Case VIII. Tronnet: The mucous membrane of the stomach softened, and generally pale; small red spots on the great curvature.

"Case IX. Lefebre: Liver studded with gray tubercles; spleen softened, and of a large size.

"Case X. Lambert: The mucous membrane of the stomach of a deep slate colour.

"Case XI. Delgutte: Biliary calculi were found.

"Thus, with the exception of the last two cases, in which no striking morbid appearances were detected, in all the bodies there were considerable lesions of the abdominal organs. If we compare these results with our observations during life, it will be difficult to deny that most cases of erysipelas depend upon some internal cause. If such be the most frequent cause of erysipelatous diseases, it may appear singular to attribute to these maladies a decided influence over the progress of internal inflammations. This influence is, however, very evident, and not more astonishing than other revulsions effected by nature or art. No fact is better ascertained than this kind of antagonism, which is established, in certain cases, between the skin and internal mucous membranes, and especially the gastro-intestinal. Hence the use of purgatives and emetics in the treatment of erysipelas: but these means should only be employed when the digestive powers are healthy, or at least when there is simple obstruction of the stomach and bowels. In similar instances to those above-described, we must, it is true, act principally upon the abdominal organs, but antiphlogistic and emollient remedies can alone be employed with safety."

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29. *Amnesia.*—M. Cassan has communicated to the Royal Academy of Medicine of Paris, the following interesting case of cerebral disease with the loss of memory of words. A man was attacked with hemiplegia, which was relieved by bleeding and blistering. Shortly afterwards he experienced incipient amau-

rosis in both eyes with pain in the head and noise in his ears. After some time hemiplegia returned. The patient then lost the memory of words, so that he could not name the commonest things; his mind in other respects was unimpaired, and all the organic functions were properly performed. He could also *read fluently*. He remembered objects, for he drew them upon paper, but he forgot the names by which they were called. The sight of a female whom he loved excited him and momentarily restored the faculty of language he had lost. He complained of insomnia, heaviness of the head, difficulty of muscular action, weakness of sight and hearing, &c.

This case is analogous to that of the notary, recorded by M. Pinel in his nosography, who, after an attack of apoplexy, forgot his own name, that of his wife, and of his children, but remembered the places where his clients briefs were deposited. M. Larrey has also related an instance of the loss of memory of words, following a wound. Professor Broussonet has also recorded an instance in which there was a loss of memory of substantives, while that of adjectives was preserved; it followed apoplexy; and a similar case is recorded by Dr. Camberet in the *Journal Complémentaire*, for February, 1819. Three analogous cases will also be found in this Journal; one by Dr. Jackson, Vol. III. p. 272, another by Dr. Chailly, p. 452 of the same volume, and a third by Professor Dickson, Vol. VII. p. 359. This last has the closest resemblance to the case of M. Cassan.

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30. *Spinal Irritation.*—The subject of spinal irritation has of late attracted considerable attention. The following cases related by Mr. Wark, of Dunlop, in the *Glasgow Medical Journal* for May last, tend to throw additional light on this very interesting affection.

Case 1. 3d April, 1826. J. H. Weaver, æt. 49, of shattered constitution. Complains of dull pain at breast, with incessant cough, almost preventing sleep, copious muco-purulent expectoration, dyspnœa, palpitation of heart, head-ache, and profuse nocturnal sweats; pulse 95, bowels confined. Has been ill four months, and treated with blisters to the breast, and cough mixtures, without benefit. Dorsal vertebræ, about 6th, 7th, and 8th, are painful on pressure; pain stretching forward to breast, so acutely as to cause him to cry out. He had his bowels freely opened with purgative medicine, was confined to the horizontal position, and a blister was applied over pained part. 8th April. Blister after several applications discharges freely, but has produced a good deal of febrile excitement, which is subsiding. 12th. Blistered surfaces healed, and all the symptoms mitigated; pain in spine confined to one spot. The blister repeated, and kept open about eight days, restored him to his usual good health. This patient had been given up for consumption, and certainly he bore some marks of phthisis. It appeared, however, to be merely chronic bronchitis, combined with spinal irritation.

Case 2. 22d June, 1828. H. B. æt. 21, a woman of stout habit, has been subject to cough for several years; for eight or nine months has complained of pain in right side of chest, nearly constant, increased on inspiration and coughing; weight and oppression at breast, difficulty of breathing, dry convulsive cough, occasional head-ache, and dullness of spirits. Pulse 90, full, tongue moist, bowels natural, catamenia regular. Was bled to 12 ounces, and had a small blister applied to the breast with very little relief. 3d July. Symptoms worse. The 3d, 4th, and 5th dorsal vertebræ are tender on pressure, particularly on right side, pain stretching acutely forward along the course of the intercostal nerves, to pained part inside of chest, causing dreadful convulsive coughing. The horizontal position was strictly enjoined, and 12 leeches ordered to pained part of spine, which gave immediate relief; this was followed by a small blister kept open for a few days. 10th July. Expresses herself greatly relieved, cough and other symptoms nearly gone—three leeches more completed the cure. About a year and a half afterwards, this girl being attacked with small-pox, the same symptoms recurred, but subsided with the fever.

peculiar disposition, or, to speak less vaguely, a lesion of some important organ, and particularly of the abdominal viscera. The idea is confirmed when we detect a red and dry tongue, head-ache, sensibility in the epigastrium, an inflated state of the belly, diarrhœa, or enlargement of the liver: but the results of dissection in eleven fatal cases of erysipelas, afford the most satisfactory proof of the accuracy of this opinion.

"In the first, a patient named Tupin, the mucous membrane of the stomach was nearly of a black colour, and softened throughout the region of the pylorus: the commencement of the duodenum exhibited the same appearances. Almost the whole of the small intestines, to within an inch above the cœcum, was of a deep violet colour. In the large intestines, some of the glands were hypertrophied, and appeared like small pustules.

"In the second case, a patient named Pflüg, stomach highly coloured in different parts, with patches of a red and brown appearance; the colon, throughout its whole extent, of a deep red colour.

"Case III. Duranton: Appearances of chronic inflammation of the stomach and duodenum, characterized by reddish tubercles; rectum distended with fæces.

"Case IV. Leerbier: Peritoneum of a red colour, with serum. Stomach, patches of brown and black colour. Duodenum, a circular ulceration, about the size of half a crown.

"Case V. Scheier: Mucous membrane of the stomach softened, and of a dark slate colour; the submucous cellular tissue of the duodenum deeply injected; red patches in the cœcum.

"Case VI. Wivet: The mucous membrane of the stomach and duodenum softened, and of a gray colour, throughout nearly its whole extent.

"Case VII. Debry: In the stomach, near the cardiac orifice, was found a smooth hollow tumour, the size of a small renette apple, containing bloody serum. The whole surface of the stomach of a dark colour.

"Case VIII. Tronnet: The mucous membrane of the stomach softened, and generally pale; small red spots on the great curvature.

"Case IX. Lefebre: Liver studded with gray tubercles; spleen softened, and of a large size.

"Case X. Lambert: The mucous membrane of the stomach of a deep slate colour.

"Case XI. Delgutte: Biliary calculi were found.

"Thus, with the exception of the last two cases, in which no striking morbid appearances were detected, in all the bodies there were considerable lesions of the abdominal organs. If we compare these results with our observations during life, it will be difficult to deny that most cases of erysipelas depend upon some internal cause. If such be the most frequent cause of erysipelatous diseases, it may appear singular to attribute to these maladies a decided influence over the progress of internal inflammations. This influence is, however, very evident, and not more astonishing than other revulsions effected by nature or art. No fact is better ascertained than this kind of antagonism, which is established, in certain cases, between the skin and internal mucous membranes, and especially the gastro-intestinal. Hence the use of purgatives and emetics in the treatment of erysipelas: but these means should only be employed when the digestive powers are healthy, or at least when there is simple obstruction of the stomach and bowels. In similar instances to those above-described, we must, it is true, act principally upon the abdominal organs, but antiphlogistic and emollient remedies can alone be employed with safety."

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29. *Amnesia.*—M. Cassan has communicated to the Royal Academy of Medicine of Paris, the following interesting case of cerebral disease with the loss of memory of words. A man was attacked with hemiplegia, which was relieved by bleeding and blistering. Shortly afterwards he experienced incipient amau-

rosis in both eyes with pain in the head and noise in his ears. After some time hemiplegia returned. The patient then lost the memory of words, so that he could not name the commonest things; his mind in other respects was unimpaired, and all the organic functions were properly performed. He could also *read fluently*. He remembered objects, for he drew them upon paper, but he forgot the names by which they were called. The sight of a female whom he loved excited him and momentarily restored the faculty of language he had lost. He complained of insomnia, heaviness of the head, difficulty of muscular action, weakness of sight and hearing, &c.

This case is analogous to that of the notary, recorded by M. Pinel in his nosography, who, after an attack of apoplexy, forgot his own name, that of his wife, and of his children, but remembered the places where his clients briefs were deposited. M. Larrey has also related an instance of the loss of memory of words, following a wound. Professor Broussonet has also recorded an instance in which there was a loss of memory of substantives, while that of adjectives was preserved; it followed apoplexy; and a similar case is recorded by Dr. Camberet in the *Journal Complémentaire*, for February, 1819. Three analogous cases will also be found in this Journal; one by Dr. Jackson, Vol. III. p. 272, another by Dr. Chailly, p. 452 of the same volume, and a third by Professor Dickson, Vol. VII. p. 359. This last has the closest resemblance to the case of M. Cassan.

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Case 3. 5th June, 1829. Mrs. A. æt. 33, mother of six children, of delicate constitution, complains of intense pain of right side of head, which appears a little swollen, dry cough, pain and oppression at breast, little increased on deep inspiration; respiration hurried and laborious, pain and numbness about shoulders, stretching down arms, palpitation of heart, great debility, is fatigued on the slightest exertion, or even speaking; pulse 112, weak and irritable, bowels costive. Upper dorsal and lower cervical vertebræ are painful on pressure, most severe about 3d and 4th dorsal; pressure aggravating symptoms. Had a child about three months ago, and did not recover well; three weeks afterwards was affected with violent pain at breast, for which she was three times bled, and as often blistered, with but partial relief. Has consulted three medical men, who uniformly recommended blistering the breast. Is much reduced in body, and considered by herself and friends to be consumptive. Three days previous to seeing her, she had come fifty miles by land and water for the benefit of sea air, and had caught a cold on her passage, to which she attributes the aggravation of her complaints. Day before this, had of her own accord, applied twelve leeches to side of head without benefit. She had two blue pills at bed-time, followed in the morning by a full dose of salts and senna, which procured copious evacuations with abatement of head-ache and febrile symptoms. Was ordered twelve leeches to upper part of dorsal vertebræ, to be followed by a blister. As she lived a considerable distance from me, it was ten days before I again saw her. She was now so much better, that she was able to walk about, without fatigue; appetite and strength improving every day. Is still suckling her child; says she has not enjoyed such health since delivery, and describes her feelings after leeching as if something were wanting about her breast; blistered surface has discharged well, but is now healed. Pain in spine confined to between 3d and 4th dorsal vertebræ, and much easier. Nine leeches, and a small blister about the size of a crown-piece kept open about eight days, removed her whole train of symptoms. I saw her about four months afterwards with slight return of same complaint, which was easily cured by the same treatment. In this case, the horizontal position was only enjoined a few days at first. In some cases the horizontal position is a *sine qua non* in the treatment; in others it is by no means essential.

Case 4. 28th Aug. 1829. I was called to Miss B. æt. 20, of delicate habit, who said she was ashamed to see me, as she could not tell what she had to complain of, only she felt weak, and her appetite was gone. Pulse 80, feeble, tongue moist, bowels natural, catamenia regular; stoops much, body reduced to a skeleton, so dull in spirits that she can scarcely be roused to the least exertion. On strict interrogation, admits having a slight feeling of weakness or weariness at breast. Upper dorsal vertebræ are tender on pressure, most about the fourth on left side; right quite free from pain, pressure aggravating symptoms at breast. About six weeks ago, after assisting the maids a short time at a washing, her hands and forearms became covered with a florid eruption, which soon disappeared, and was succeeded by a slight cough and uneasiness about chest, which have since gradually worn away. Was treated with a solution of tart. antim., bark, and other tonics, but without effect. Six leeches were ordered to pained part of spine, which procured immediate relief. She was now sensible she had been labouring under more oppression at breast than she had been aware of. A small blister produced such constitutional derangement, and aggravated the symptoms so much, that I did not think of reäpplying it. A few leeches were applied every second day for a while, making in all thirty-one, which along with the horizontal position, greater part of the day, effected complete recovery. During the application of the leeches she uniformly felt herself getting better, symptoms returning a little before next application, which gradually wore off towards the end. In less than four weeks her health and strength were completely restored.

Case 5. M. C. æt. 23. In summer, 1826, I attended this girl in fever. She was advanced in the disease, and had been neglected before I saw her; was

treated with local bleedings, blistering, emetics, purgatives, &c. as symptoms indicated. Her recovery was slow, and accompanied with a host of nervous and hysterical symptoms, which have continued more or less ever since. About two years ago the abdomen getting enormously distended and communicating a doughy feel to the fingers, there was little reason to doubt that her bowels were loaded with feculent matter. A course of purgative medicine was ordered, which brought away a prodigious quantity of dark pitchy looking fæces, mixed with mucus and slimy matter. The belly, however, continued nearly of the same size, but a little softer; the stools were less in quantity, but much the same in appearance. Her strength getting exhausted, and her faith having failed her, I was obliged to abandon the practice. About six months after this she complained of pain in right hypochondriac region, aggravated on pressure, with frequent attacks of bilious vomiting; upon questioning her she admitted having pain about shoulders, particularly on right side. Several medical gentlemen saw her, and she was more than once blistered over the region of the liver, and salivated with mercury, to no purpose.

On the 18th of December, 1829, I was again called to see her. She had been getting worse for some months, and is now confined to bed. Complains of pain and giddiness of head, pain and numbness about shoulders and arms, particularly right arm; dull pain over region of liver and abdomen, most acute about caput coli, occasionally stretching down thighs: is much harassed with vomiting of acrid bile; eyes weak; speech has been hesitating for some months, is worse of late, stops often in the middle of words; abdomen reduced to natural size and feel; bowels open; pulse eighty, weak; menses have made their appearance all along, but a little irregularly. Says she is pretty easy while lying in the horizontal position, but all her symptoms are aggravated on getting up: gets so faintish in the erect position, that she is soon obliged to lie down. These symptoms led me to suspect the spine to be in fault: it was accordingly examined, and found tender throughout its whole extent, but particularly the cervical, lower dorsal, and middle of lumbar vertebræ; pressure, or the application of a sponge dipped in hot water, on the lumber vertebræ, gave pain, aggravating pain in abdomen, and particularly at caput coli; pain shooting down thighs, along the course of crural nerves. On pressing the inferior dorsal, pain stretches forward to right hypochondriac region, which she describes as distinctly the pain she has so long felt there: pressure on the inferior cervical produced a feeling of pain and numbness about shoulders, stretching down right arm, which has not had proper feeling for some months: but the most remarkable symptom of all is in the upper cervical; slight pressure there increases the shooting pains over the head, and causes a feeling of constriction about the throat, increasing the impediment in speech, and causing difficulty of respiration. When the pressure is increased, the pain becomes intolerable, the function of voice ceases, and the respiration is as completely stopped as if she were suspended by a rope round the neck. Whatever part of the spine was pressed on, pain was felt shooting along the course of the nerves, but most severe on the right side. The upper cervical and inferior dorsal were the two points most severely affected, and from which I judged it not unlikely the pain might spread along the spine: these I resolved first to attack. Six leeches were applied to upper cervical, and same number to lower dorsal vertebræ. These were repeated with relief, and two small blisters were afterwards applied. In five days, when I again visited her, I found that the leeches had bled very freely, and had produced considerable debility: her face was pale and blanched, and she could with difficulty turn in bed. The blistered surfaces discharged for about a fortnight. It was a month before she gathered much strength: these symptoms, however, were mitigated, and she spoke more freely. By the beginning of April she was able to be out of bed the greater part of the day, spoke without hesitation, and was nearly free from former symptoms, but dorsal vertebræ, between ninth and tenth, were still a little tender. By the middle of June she could take exercise out of doors, had a good

appetite; and the spine was sound, except between ninth and tenth dorsal vertebræ, where there still was tenderness on pressure, shooting through to right side, in which she still felt some uneasiness. Considered herself in better health than at any time since attack of fever.

The horizontal position may have been a good adjunct here, but that it was essential to the cure does not appear, as she was obliged to keep it most of the time for nearly six weeks before the treatment commenced, notwithstanding which she became every day worse. That the origin of the nervous system was in fault since fever, I doubt not, and that timely detection and timely treatment might have saved her from nearly four years' suffering and misery, and preserved her constitution from a shock from which it can never fairly rally, I as little doubt. The pain in side and shoulders and vomiting of acrid bile, were certainly symptoms of inflammation of the liver, but it is plain it was merely suffering in function, from disease of its nerves, as the heart and stomach are often known to do from the same cause.

Case 6. A few weeks ago I was called to see a young woman twenty-one years of age, whose prominent symptom was vomiting of every thing she took. She had pain in right hypochondriac region, increased on pressure, and pains about shoulders, shooting down right arm, which she describes as stitches. Had a child in the sixteenth year of her age, from which she dates the commencement of pain in side; pain in shoulders more recent; dyspepsia of some years' standing, but vomiting has only been distressing of late. Has been often bled and blistered for pain in side, (supposed to be hepatitis,) and sometimes with partial relief. Had consulted a medical practitioner a few days ago, who ordered a large blister to be applied over region of liver. Ninth and tenth dorsal, and fourth, fifth, and sixth cervical vertebræ, are painful on pressure, the pain stretching to pained part in side and shoulders. Nine leeches were immediately applied to ninth and tenth dorsal vertebræ, and, in a few days, same number to inferior cervical. Eight days after this, she came a distance of about four miles, to show me how much improved she was. Vomiting gone, pain in the shoulders and side much better, lies in bed most easily on right side, which she has not been able to do since she had the child; pained parts in spine still a little tender. Leeches ordered to be reäpplied.

I saw her about a week ago, stout in body and looking well. Says that she enjoys excellent health, to which she has been a stranger for more than five years. The horizontal position was not observed in this case.

I have only met with one case of this kind which defied remedial measures; the prominent symptom was tickling cough: time, however, effected the cure. Several cases have been relieved, although they could not be said to be cured. This disease sometimes accompanies consumption, yet in one case I had strong reason to believe that it roused up fatal tubercular phthisis.

That this class of complaints is seldom seen, except in the debilitated walks of life, appears to be unfounded. Any thing here, in place of a town, scarcely deserves the name of a village. My practice is entirely in the country, in a place, too, famous for the salubrity of its air, and the healthiness of its inhabitants; yet in such a place spinal irritation holds no inconsiderable rank in the catalogue of human calamities.

As a stimulus to the younger candidate for medical eminence, I may be allowed to mention that, in the diagnosis and treatment of no other disease have I gained so much credit and confidence in families. I have cured several who have been long considered to be falling victims to consumption, the gaunt and unrelenting destroyer of mankind. Restored to the arms of their families and friends from a long period of hopeless sufferings, they often know not in what terms to express their gratitude.

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31. *Ulceration and Perforation of the Heart.*—An instance of this is recorded in a late number of *La Lancette Française.* The subject of this case was a female fifty-one years of age, admitted into the Hôtel Dieu on the 8th of March

last. She exhibited some obscure gastric symptoms, and could very imperfectly describe either the nature or seat of her complaints. Her tongue was pale and slightly furred; *her pulse regular*, rather more frequent than natural; bowels inactive. Her disorder appeared so slight that little attention was paid to her. Eleven days after her admission she suddenly died. A short time previous she had been tranquilly conversing with her neighbour, and did not make any complaint of pain or unusual uneasiness.

On examination the left ventricle was found perforated at its posterior and middle part by an ulcer, or apparently two ulcers, one commencing internally, the opposite to it externally; at least the shape of the hole gave that idea, it being larger externally and internally than in the centre, and therefore presenting an hour-glass figure. The fleshy substance of the heart was not softened, except for a short distance around the ulcers. Thick, red, fibrous layers were found on both surfaces of the heart. The heart was enlarged, but without any thickening of its parietes. The ventricular valves and orifices of the vessels were normal.

MATERIA MEDICA AND PHARMACY.

32. *Combination of Nitre and Calomel.*—M. Burdach states in a recent German Journal, that the addition of nitrate of potash prevents calomel from producing salivation, the nitre causing its prompt expulsion by stool. This combination he also asserts to be a powerful derivative, and relieves the head, the chest, and the liver, more effectually than either of them will do separately. Certain diseases, as hydrocephalus, croup, &c. he adds, require large doses of calomel, and if this medicament is not eliminated from the system, it becomes a poison: the addition of nitre prevents this unfortunate result.—*Gazette Médicale, July*, 1831.

33. *Correcter of Opium.*—According to M. Puchelt, a German physician, the sulphate of soda is an excellent correcter of the unpleasant effects of opium, given in the proportion of a scruple to half a grain of opium. This dose may be repeated two or three times a day. In combination with Glauber's salt, opium he says, may be administered in cases where slight plethora, local or general, prevents recourse being had to opium alone; in obstinate hæmorrhages, principally, this mixture will produce the happiest effects. But if sulphate of soda prevents the congestion which opium sometimes produces, M. P. says that there is another article which corrects its narcotic, without diminishing its sedative, effects—this is the castor. The combination of opium and castor he considers very useful in cases of hysteria.—*Ibid.*

34. *New Process for preparing Medicinal Prussic Acid.*—Mr. Thomas Clark, describes in the *Glasgow Medical Journal* for May last, the following process for preparing Medicinal Prussic Acid, by which, he says, that every Apothecary may make that article cheaply, and of uniform strength.

"Take of Tartaric acid, 72 grains; Cyanide of potassium, 32 do.; Distilled water, an ounce.—In an ounce phial, furnished with a cork or stopper, which should, by previous examination, be ascertained to be sufficient, dissolve the tartaric acid in the water. Then add the cyanide of potassium, and immediately thereafter insert the cork or stopper, which for a little must be preserved firmly in its situation by the finger. Meanwhile agitate, keeping the phial immersed in a basin of cold water, in order to repress the heat produced in the process. When all action has ceased, set the phial aside in a cool and dark place for twelve hours, in order that the cream of tartar formed may subside. Afterwards decant the liquor, which preserve in a phial in a cool and dark place."

Those who are accustomed to chemical calculations, will easily perceive that

the following result ensues:—We employ Tartaric acid, 72 grains; Cyanide of potassium, 32 do. Total, 104 grains.—These produce, Cream of tartar, 91 grains; Hydrocyanic acid, 13 do. Total, 104 grains.

But an ounce of water dissolves no more than about five grains of cream of tartar; and its soluble power is likely to be diminished by the presence of hydrocyanic acid. Therefore all the cream of tartar formed, except five grains, that is, 86 grains, will subside; and the water will hold in solution, besides those five grains of cream of tartar, 13 grains of hydrocyanic acid. But this solution will contain about 26 full doses (we will say 25) of hydrocyanic acid. Of cream of tartar, therefore, each dose will contain only 5.25, or one-fifth of a grain. The presence of this small quantity of cream of tartar would be regarded as an impurity by chemists, who would separate it by distillation. But little regard will the physician give to the presence of cream of tartar, amounting to the fifth of a grain in a dose. In employing prussic acid, indeed, the objects of the chemist and of the physician are altogether different. Purity is the desire of the chemist; uniformity of strength that of the physician. A disregard of this difference has too often in pharmaceutical processes caused chemical purity to be dearly purchased at the expense of medicinal uniformity.

"In the above process, provided we retain the same quantities of tartaric acid and of cyanide of potassium, it is plain that, by varying the water, we may obtain a solution of prussic acid of any given strength. The above formula is adapted to the strength suggested by Vauquelin, namely, water one ounce, to the prussic acid which may be obtained from one drachm of cyanide of mercury; for this yields the same quantity of that acid as 32 grains of cyanide of potassium. This strength of Vauquelin is that most generally in use in this country; and it has been adopted in the last edition of the Dublin Pharmacopœia. Magendie's solution of prussic acid is about four times as strong.

"In the common processes for preparing prussic acid, one great cause of the various strengths produced by those processes, is the great volatility of prussic acid. To be aware of the great risk of loss by this volatility, put a drop of a solution of pure hydrocyanic acid on a bit of litmus paper. This paper will be immediately reddened, as by any other acid; but, so very volatile is this acid, that the redness will vanish in two or three minutes, ere the drop has visibly diminished in size. But the solution will be affected in its strength by this volatility of the acid, not merely according to the manner in which it is prepared, but also according to the manner in which it is preserved. Here, the volatility being too little feared, is too little guarded against. I would enforce, therefore, great care as to the sufficiency of the cork or stopper; and the precaution of inverting the phial is worthy of adoption. The further precautions of excluding light and avoiding heat are necessary to prevent a spontaneous decomposition which prussic acid sometimes undergoes."

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35. *Ioduret of Lead.*—From the experiments of Drs. Cottereau and Verde Delisle, made at the hopital de la Pitié, in the wards of M. Velpeau, it appears, that of all the preparations of iodine, the ioduret of lead possesses, in the highest degree, the property of resolving scrofulous and scirrhous engorgements.—*Journal Hebdomadaire, April,* 1831.

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36. *Solution of Cantharides.*—Sir Charles Scudamore recommends as a substitute for the common blister, a solution of cantharides in concentrated acetic acid. This solution is rubbed on the surface of the part which it is wished to vesicate, with a small varnishing brush, for about two minutes, or until a slight flush of redness is perceived. In less than the usual time, free vesication is produced, and a copious discharge of serum follows.—*London Medical Gazette, June,* 1831.

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37. *Formulæ for the exhibition of Hydriodate of Iron.—For a Bath.* ℞. Hydriod. ferri, ℥ij. aquæ, q. s. M. The quantity to be progressively increased, for adults, by

half an ounce at a time.—*For Lotions, Injections, &c.* ℞. Hydriod. Ferri, ʒss. Aquæ Distillat. ℔ij. M.—*For Pastiles.* ℞. Hydriod. Ferri, ʒj. Croci Stigmat. ʒviii. Sacchari, ʒviii. Gum Tragacanth, q. s. Fiant Pastil. 240. Eight or ten to be taken in the course of twenty-four hours, and the dose augmented by one every three or four days. They are recommended in enlargement of the cervical glands, in chlorosis, and particularly in amenorrhœa.—*For Ointment.* ℞. Hydriod. Ferri, ʒiss. Adipis, ʒj. M. The size of a small nut to be used night and morning, rubbed into the thighs, in amenorrhœa and in leucorrhœa.—*For Tincture.* ℞. Hydriod. Ferri, ʒij. Alcohol. Camphoræ, aa. ʒij. M.—*For Wine.* ℞. Hydriod. Ferri, ʒivss. Vini *(Bordeaux)* ℔j. M. A table-spoonful to be taken night and morning by adults, in scrofulous affections, &c.—*Lon. Med. Gaz. Aug.* 1831.

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38. *Medicinal Properties of the Sulphuret of Carbon.*—The sulphuret of carbon, though discovered by Lampadius, in 1796, has not yet been introduced into the medical dispensatories. MM. Wutzer and Pellengham have lately investigated its properties with the following results:—

1. The sulphuret of carbon is one of the most powerful of the diffusible stimulants yet discovered.
2. It excites powerfully the activity of the heart and arterial system.
3. Its internal use quickly determines acceleration of the pulse, increased heat, and sanguineous congestion towards the skin, and genito-urinary apparatus.
4. The most remarkable secondary symptoms are, abundant diaphoresis, increase of the urinary secretion and of the menstrual discharge.
5. It has been used with the utmost success as a remedy in chronic rheumatism, and in gout where no fever simultaneously exists.
6. The dose in which it is fit to give it internally, is from three to eight drops, in any convenient liquid vehicle, or on a bit of sugar. It is also very useful as a liniment, which may be formed with sulphuret of carbon, ʒij. and camphorated alcohol, ʒiv.; olive oil may perhaps be advantageously substituted for the camphor solution.—*Journal de Chimie.*

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39. *Formula for Nitrate of Silver Ointment.*—The following is the formula given by Mr. Middlemore for this ointment:—℞. Argent. nitratis, gr. ij.; Liq. plumb. acetatis, gtt. xv.; Ung. cetacei, ʒj. M. The quantity of nitrate of silver may be gradually increased to six or even seven grains, as the eye becomes accustomed to its use. It is highly important that this ointment should be carefully prepared, and that the various substances of which it is composed, should be accurately blended; and that the nitrate of silver should be reduced to an impalpable powder before it is mixed with the spermaceti ointment. The ointment should not be used after it has been prepared for a longer period than twelve or fourteen days.

Mr. Middlemore directs the ointment to be applied in the following manner. Having placed a portion of the ointment, about as large as a small split pea, upon the blunt extremity of a probe, take hold of a few of the eyelashes, and a portion of the surrounding skin, and elevate and slightly evert the upper lid; then direct the patient to look downwards, smear the ointment upon the upper part of the eyeball, and withdraw the probe on the temporal side of the eye; in this way the ointment becomes thoroughly dissolved, and equally diffused over the whole of the corneal surface.

Mr. M. employs this ointment in various affections of the eye.—*Midland Medical and Surgical Reporter, August,* 1831.

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40. *Asparagus as a Sedative.*—The *Gazette Medicale* of the 28th of May last, contains a memoir by M. Eusebe de Salle, on this subject. The attention of the profession was first called to the sedative properties of asparagus by M. Broussais about two years since. (See this Journal, Vol. V. p. 499.) The diuretic property of this vegetable is known to every one; M. de Salle attributes to it

another, which we confess never to have observed. He says that it excites, in persons whose larynx is susceptible, in half an hour or an hour after it is eaten, a violent constriction of the throat; there is a considerable irritation of the larynx, and the glottis has a tendency to spasmodic contraction. This painful state ordinarily ceases in about twenty minutes. For a knowledge of its calming property, we are indebted to a gentleman, not of the profession, affected with a chronic irritation of the heart, and who observed that he suffered much less after eating asparagus. As this vegetable could be obtained but for a short season, this gentleman applied to M. Johnson to prepare for him a syrup, which he might take when the plant was not to be procured. M. Johnson, anxious to obtain, in an isolated state, the active principle of the vegetable, undertook, with the aid of MM. Vauquelin and Robiquet, its analysis. He ascertained that the constituent principles of the asparagus, are asparagine, a green resinous matter, wax, albumen, phosphate and acetate of potass, and finally, mannite. Upon experiment, the asparagine was found diuretic, but not sedative, and the green resin slightly sedative; the combination, however, of the asparagine and the green resin was found most efficacious.

In our seventh volume, p. 232, we published the method recommended by Chevallier for preparing the syrup of the asparagus; the following is that employed by M. Johnson:—Take eight pounds of asparagus, cut it in small pieces, bruise it, and express the juice by a strong pressure. Evaporate the juice to a syrupy consistence, then allow the asparagine to crystallize; decant, and again evaporate the liquid to a dry extract.

Take the green part of the asparagus shoots, and macerate them for fifteen days in half their weight of alcohol, at 22°. Express, and take enough of it to entirely dissolve the dry extract; when the extract is dissolved, evaporate, to remove from it the alcohol. Use this to dissolve the asparagine, and then make the syrup.

We hope that some of our pharmaceutists will undertake to investigate the active principles of this plant, and the best mode of obtaining it, and will form a preparation of it, to enable physicians in this country to determine its therapeutic properties. If it really possesses those attributed to it, there are many cases in which it is calculated to afford important relief. M. de Salle relates two cases of distressing palpitation of the heart, in which the most manifest relief followed its administration.

PRACTICE OF MEDICINE.

41. *Treatment of Croup.*—In the second number of our esteemed cotemporary, the *North of England Medical and Surgical Journal*, there is an interesting paper on the treatment of Croup, by W. Goodlad, Esq. of Bury, and as the author's views differ in several points from those usually received, we shall lay an account of them before our readers.

When effusion has taken place in this disease which may be known by a rattling respiration, with disposition to sleep, pale or livid lips, and cold extremities, Mr. G. says that death must follow, and that it will be accelerated by the remedial means we should otherwise employ. "But so long," he says, "as the attack is accompanied with a high sounding cough, without rattling, the mischief whatever it may be, is not irremediable; I would go much further, and declare it ought to be arrested, and feel a perfect conviction, in the majority of cases, that it may.

"I am aware that there are instances on record, where death has taken place, though no effusion could be discovered afterwards. These cases probably gave rise to the doctrine of spasm, regulated the treatment in many cases, and still are quoted with more observance than they appear to me to deserve. But granting their validity, it has not yet been proved that a more active treatment

would not have saved life; nor is death, under such circumstances, a common occurrence, where no remedies have been used. Amongst the poorer classes in Lancashire, who seldom call in assistance for croup, until all chance of recovery is destroyed, I have never yet seen a case terminate fatally, without an effusion in the bronchia being conspicuous several hours before death; and I am much disposed to attribute such an event where it has happened, to the remedies made use of, rather than consider it a natural termination of the disease; particularly as some of those commonly in use are well calculated to produce it.

"Amongst these," he adds, "the warm bath is one of the most active, and, at the same time, most injurious; and I cannot imagine how any one, who has once witnessed its effects, can again recommend it in croup. It is, in my opinion, so decidedly hurtful, by quickening the circulation, that I should interdict its use in almost all inflammatory cases. The warm bath, I think, is never useful unless prolonged until faintness is produced; and in the early stages of inflammatory complaints, it is often impossible to produce this effect, until the heart beats more than 130 times in a minute, which is a degree of excitement I think unwarrantable. If resorted to later, effusion is brought on sooner than it would otherwise supervene; and many practitioners could, I think, call to mind cases, where its use has been followed by unexpected death: the vessels previously emptied perhaps by bleeding, having given way, and apoplexy supervened."

Emetics are equally condemned by Mr. G. "The action of vomiting consists," says Mr. G. "not merely in ejecting the contents of the stomach, for respiration is suspended by it, whilst the heart continues to act, and by propelling blood to the lungs, the balance between these functions is so far destroyed, that the greatest muscular exertions become necessary to restore it. These struggles are more violent and injurious in proportion to the progress of the disease, so that when fully formed, emetics, I think, ought never to be exhibited."

Nauseating doses of tartar emetic, he also disapproves of. "There is great reason," he justly observes, "to dread the action of this medicine, which too often acts as a poison on children when in small doses, and it appears to me that the means of relief are very disproportioned to the violence of the disease; and, in the majority of cases, very inadequate to remove it.

"A further, and if possible, more formidable objection, is the length of time occupied in giving this treatment a due trial; and where three or four hours are allowed to pass away, exhibiting only small doses of nauseating medicines to cure croup, the practitioner becomes responsible to a degree which can only be estimated by the effects resulting from such a treatment."

Blisters, applied upon or in the neighbourhood of the windpipe, in the early stages of croup, he considers as decidedly injurious. Here, also, several hours must elapse before the operation of the blister commences, much time is therefore lost which can never be redeemed; and when the blister does rise, the sense of stricture about the larynx is increased by it, the constitutional disturbance heightened, the pulse quickened, and the inflammation rendered more violent. A heated and close atmosphere is also injurious.

"From what has already been said, it is evident that two indications are necessary to be attended to, in the cure of croup; the first is to subdue the inflammation of the windpipe, the other to relieve the oppressed circulation. Without the first object be attained no means will avail; nor will it in every case be safe to wait until that can be accomplished, before we relieve the system at large. Danger may be imminent from either of these causes, and we have often to determine whence it is most so, and to regulate our practice accordingly.

"The causes which produce croup, its symptoms and progress, alike indicate the necessity of blood-letting, and this remedy, in comparison with which all others sink into insignificance, should be immediately resorted to. Any quantity of blood may be drawn by leeches, and the local complaint, in almost all cases, be subdued by them; for if one crop of leeches do not remove it others must follow, until the breathing becomes free, or the child so faint that further

depletion would be unsafe. This mode of taking blood, by emptying the vessels, which are inflamed will, it is evident, afford relief, with least expense to the constitution: but when the complaint has existed many hours, and the jugular vein becomes alternately distended and collapsed, during each inspiration; when the angles of the mouth are drawn downwards, every muscle of the neck brought into action, and the breathing consists of a series of gaspings, there will not be time afforded for leeches, and not a moment must be lost. The external jugular vein should be immediately opened with the lancet, though this operation is sometimes exceedingly difficult, requiring a quick eye and a prompt hand to catch it between each inspiration. The struggles of the patient, and the great contraction of the muscles, add to the difficulty; but no consideration should deter us from giving instant relief, and no other method of taking blood seems to afford the same immediate benefit both to the head and breathing. The child may be on the brink of effusion, and every minute lost is matter of serious reproach; but this urgency of the case, which if not attended to, will speedily be followed by stupor, and that loss of sensibility over the whole frame, so favourable to effusion, renders additional precaution necessary; for if the depletion be carried too far, or the vessels emptied very suddenly, that event so much to be dreaded will be accelerated.

"The finger should therefore be kept upon the pulse whilst the blood is flowing, and the further flow of blood prevented, if the breathing be properly relieved, before faintness is induced. It is safer to trust the further treatment of the case to leeches, which are indeed often necessary even when the jugular vein has been opened, and the loss of blood carried for the time to the greatest extent. This will not be matter of surprise, when we consider how little connexion there is between the arteries ramified upon the inner surface of the wind-pipe, and the external jugular vein. It is safest, therefore, to unload the general circulation, where that is requisite, from the system at large; and treat the local complaints with leeches where they can be easily obtained; but if not, the finger may be placed upon the orifice for a short time, when the breathing is relieved; and another and a smaller quantity of blood be taken from the same orifice, until faintness deter us from proceeding further.

"I have generally directed leeches to be put on the lower part of the wind-pipe, below the *pomum adami*, because they bleed quite as well as on the upper part of the tube. The blood is drawn from those vessels, which have most recently taken on the diseased action; the inflammation is thereby prevented from extending, and the vessels already weakened by disease, are emptied more gradually and with less danger of their giving way.

"In whatever manner the blood be taken, a degree of faintness must be produced, *and kept up for some time*, which renders the continuance of inflammation impossible, and the patient watched most narrowly, lest reäction come on, and more leeches be necessary. It is now that the ear of the practitioner will be most useful to him, and the sound of the cough, the noise which is made by the air passing through the inflamed part, and the frequency and freedom of the inspirations must be closely attended to. He should never leave the bedside of the patient until he is satisfied on every one of these points, since he cannot do so with safety, or consistently with that duty we all owe, where the life of a fellow creature is at issue. By and bye, he will be rewarded by hearing the cough alter its tone, it becomes loosened, there is a little expectoration, and the child is safe.

"It is difficult to convey to the mind of the reader, those shades of difference, which minute attention will soon teach him, and it is better perhaps to rest satisfied with directing his observation to those points in practice which are really important. But I wish to repeat, that a stridule will remain after the respiration has become free, and though neither this symptom, nor the high sounding cough, afford sufficient reason to apply more leeches, yet, the long continuance of either of them, is always an object of suspicion, and *unless the inspirations be*

free, full, and slow, he may rest assured that the inflammatory action is not entirely removed.

"I have hitherto considered croup a primary disease, but the majority, and the most severe cases are accompanied with, if not produced by, teething, which keeps up the irritation, produces relapse whenever reäction takes place, and is accompanied with determination to the head, and a disposition to inflammation and effusion there. The state of the gums ought always to be attended to, and they should be freely lanced, if there be heat or thickening over them in any part; and this precaution is often necessary, until the child has cut the first of its permanent teeth.

"During this time the bowels will have been opened by a dose of calomel and jalap, or of castor oil; and the only other medicine I am in the habit of giving, is calomel with opium in large and frequent doses. This combination, which before the loss of blood, would be highly pernicious, if given only when the head is freed from oppression, and the breathing is quieted, has always appeared productive of the best effects. It produces sleep, appeases the cough, creates determination to the skin, and prevents reäction; while the calomel acts here as in iritis, by preventing effusion and producing absorption.

"Another advantage arising from the combination of opium is, that it enables us to give a larger quantity of calomel, than would be otherwise practicable without its passing off by the bowels; and as the glandular system in children is seldom affected by it, and ptyalism therefore rarely induced, we need not be deterred from giving it largely, and have occasion only to watch its operation on the bowels."

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42. *White Agaric a cure for night sweats.*—In the *Journal der practischen Heilkunde,* for March, 1830, M. Burdach highly extols the powers of the white agaric *(boletius laricis)* in the night sweats of phthisical patients. A single dose of it given in the evening diminishes, he says, the sweats the following night, and if repeated several evenings arrests this debilitating symptom.

The agaric is given in the dose of four grains in the evening. If the patient is not irritable, from six to eight grains may be given, and the dose even repeated during the day. It is given in pills with a bitter extract. In cases of habitual diarrhœa, the author combines the agaric with kino or alum.

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43. *On Traumatic Tetanus.* By Dr. Sim.—"Morbid anatomy is not the only source from which we may derive a knowledge of the seat of diseases; physiology often enables us to point out what organs are in fault, when certain functions are disturbed, because we know upon what organs the healthy performance of those functions depends. Now, the symptoms of traumatic tetanus confine themselves so exclusively to the muscles, that it appears to me difficult to avoid the theoretical conclusion, that local injuries of the motory organs produce the disease, by throwing into a state of morbid irritation the common origin of the nerves of the motory system. I say morbid *irritation,* because we are not warranted either by the symptoms of the disease, or dissection, to affirm that inflammation is present in every case, or in every stage of tetanus: the vascular excitement, of which traces are found in the vertebral canal, is more likely to have been the effect than the cause of that irritation which is communicated to the motory system of nerves, in the same manner as over-exertion of the mind causes increased action of the blood-vessels of the brain. I would not, however, rest the opinion I entertain, that the profession actually possesses sufficient grounds upon which to found a rational treatment of tetanus, merely upon principles deduced from the doctrines of physiology. Dr. Perry appears to me to have undervalued the facts observed by others, as well as by himself, respecting the morbid anatomy of the disease; for in his own two cases, in the valuable collection of cases published by Mr. Adams, in the 10th Number of this Journal, and in the two fatal cases contained in my collection in the preceding Number, the *post mortem* observations confirm the conclusion, that morbid

irritation of the spinal cord had existed during life. Dr. Perry has added an interesting appendix to this proposition, by showing a connexion between the morbid changes within the vertebral column, and similar changes in the condition of the nerves proceeding from the wound: and although, in his first case, he states, that the cutaneous nerves were those in which traces of inflammation were detected, I must remark, that the superficial peroneal nerve, which he particularizes, is principally expended upon the extensor muscles; and, as it lies between the muscular fascia and integuments of the lower and outer part of the leg, it must have been implicated in the sloughing and inflammation at the seat of the injury.

What, then, are the means by which we may arrest this morbid action of the nervous system of the muscles, or restrain it within safe bounds until it has wasted its force? I believe that when one portion of a system of organs, engaged in performing the same or similar functions, is irritated, the remaining portions partake of the irritation by sympathy; and that when the irritation of the former is soothed, the latter partake in the relief. I believe also, that when an undue determination of nervous excitement has been directed to one system of organs, other systems, performing dissimilar functions, sustain a diminution of nervous vigour; and that the excitement of the former may be allayed by irritating the latter. I fear we have few direct means of allaying irritation in the whole or any part of the muscular system, which are not liable to the objection of producing a still greater degree of torpidity in the secretory organs. Perhaps the warm bath, as a general remedy, and mild applications to the wound, or, if a slough exists, a fermenting poultice, to counteract, by its carbonic acid, the tendency which dead matter has to fall into putrid decomposition, comprise the most useful sedatives: opiates ought not to be employed to such an extent as to suspend the action of the other remedies. But in our choice of counter-irritants we have a much wider scope, and in severe cases we ought to take advantage of the full range. The skin, the mucous membrane lining the alimentary canal and urinary passages, and the salivary and biliary systems, furnish instruments which may be employed advantageously for the purpose of withdrawing from the muscular system a portion of nervous irritation. There are, however, certain states of the constitution, in which this transfer of irritation is more easily effected than in others. It is effected with less certainty when the system is in full vigour, than when reduced. In inflammation of the serous membranes, for instance, in plethoric subjects, if we apply a powerful blister to the skin before the force of the circulation has been broken by copious blood-letting, we are more apt to aggravate the inflammation than to relieve it; but the same remedy has most happy results, when applied after adequate depletion has deprived the constitution of the means of supporting two extensive foci of irritation at the same time. Unless, therefore, a tetanic patient is already in a proper state for counter-irritation, blood-letting ought to precede the use of local stimulants, and it ought to be repeated at short intervals until a decided reduction of vascular action has been obtained. Blisters and tartar-emetic ointment applied along the course of the spine extensively and unmercifully, (if I may use the expression,) so as to ensure a severe and long-continued irritation, stimulating embrocations, antimonials, and the frequent use of the warm bath; purgatives of such a nature as stimulate more the mucous than the muscular coat of the alimentary canal, in which view croton oil is less eligible than oil of turpentine or neutral salts; calomel, to excite the biliary and salivary secretions; irritation of the urinary passages by setons or bougies, or by cantharides applied to the denuded surface of the cutis, or by the internal use of oil of turpentine;—these constitute the means of counter-irritation, which have hitherto been employed with greatest success, and which, I trust, if employed consistently, energetically, and in combination with each other, will, ere long, deprive this frightful disease of more than half its terrors.—*Glasgow Medical Journal, May*, 1831.

44. *Treatment of Gout.*—We copy from a recent No. of the *London Medical Gazette*, the following analysis of a paper read to the College of Physicians, by its learned president, Sir HENRY HALFORD. Few if any living physician has had more experience in the treatment of gout than Sir Henry, and his opinions are entitled to the most respectful consideration.

"Sir Henry remarked that he felt as if some apology were necessary for directing the attention of those present to a complaint on which so much had been written as gout; but, said he, 'I rest assured that you will receive in good part the result of my long experience in the treatment of that disease, and that if I state to you that there is no malady to which I am called upon to administer that I prescribe for with so much confidence in the resources of our art as for gout—formerly that opprobrium medicorum, you will give me willingly a few moments of your attention.' On the various seats of gout he would not dwell: in fact, it was to be met with in almost every part of the human frame. Some believed they had seen it in the eye, and he had himself witnessed it in the kidneys, in the urethra, in the prostate gland, and in the tonsils. One of his colleagues had suffered from it in these, and he mentioned an eminent physician in the country so harassed by it, and so disappointed by finding no relief from the usual remedies for quinsey, that at length he plunged a lancet into it, in case any deep-rooted collection of matter had taken place. None followed, but the gout was dislodged, and in a few minutes made an attack upon the great toe. The angina disappeared, but the disease ran its usual course in its new situation.

"Among the various remedies for gout, Sir Henry's dependance rests on colchicum. Under ordinary circumstances of gout in the extremities, he does not commence its use immediately, but postpones the antidote till the disease shall have become fixed: he then directs the wine of the root, prepared according to the formula of the pharmacopœia; and from this he expressly declared that he had not known 'a single instance of any untoward effect.' Frequently it removes the complaint without the manifest increase of any secretion: sometimes it causes perspiration, and sometimes acts as a diuretic; but so far is it from being apt to purge violently, as the eau medicinale was wont to do, that it is necessary in most cases to add a little sulphate of magnesia. The following is Sir Henry's prescription:—A saline draught, with camphor mixture; a drachm of syrup of poppies; and not exceeding from thirty-five to forty-five minims of the vinum colchici at bed-time. In the morning the draught to be repeated, but with a little modification, viz. only twenty-five minims of the colchicum wine and half a drachm of the syrup of poppies, while to this is added a drachm of Epsom salt. This method is to be pursued for several successive days, and then followed up by a pill, composed of three grains of an acetic extract of colchicum*, and one or two grains of Dover's powder, with a like quantity of compound extract of colocynth, the whole being terminated by a mild purgative. 'It had been argued,' said Sir Henry, 'that it had been laid to the charge of colchicum that its good effects were but temporary: now, even if it were so,' he asked, 'whether three or four attacks, of as many days each, were to be compared in the extent of suffering they produced, with the weight of a six weeks confinement, spring and autumn, which used to be the case before the virtues of colchicum were known?' In addition to which, the evils resulting from the formation of chalk stones in the joints are now almost entirely done away—by the controul exercised by this medicine over the inflammatory stage of the disease. But, besides, Sir H. Halford's experience is against the correctness of the opinion that gout returns more frequently under the use of the colchicum: on the contrary, when the vinous infusion has been followed up by the acetous extract, he holds himself justified in asserting that the attacks are removed to as long intervals as they used to be when left entirely 'to patience and flannel.' The learned author of the paper did not, however, re-

* Made by evaporating an infusion of the root in vinegar.

commend the above as a specific treatment to be adopted in all forms and varieties of gout, but as one of general application, requiring to be modified with varying circumstances. Occasionally some light preparation of bark is required in worn-out frames, to reïnvigorate them after the colchicum: occasionally a blue pill is of service in restoring the flow of bile when it has become deficient. Of the different preparations of colchicum an infusion of the root in sherry, has appeared to Sir Henry to be decidedly the best: that made from the seed is apt to excite insupportable nausea, and when this has once happened, it is in vain that you urge a patient to try it again: he prefers the acute agony of the disease to the distressing misery of the remedy.

"The learned President proceeded to state that colchicum was not a new medicine, having been used in the sixth century, under the name of hermodactyle. Being desirous to ascertain whether this was identical with our colchicum, he had procured some from the market at Constantinople, specimens of which were laid on the table: they appeared to be the same as the common meadow saffron, and Sir Henry is about to make trial of them in gout, in the same manner as colchicum.

"In preventing the recurrence of the gouty attacks, by far the best remedy has appeared to be a few grains of rhubarb, with double its quantity of magnesia, every day; or some light bitter infusion, with a little tincture of rhubarb, and fifteen grains of the carbonate of potash, if the digestive powers were considerably impaired. Depletion, either by bleeding or strong purging, are to be avoided. But far more depends on the patient's management of himself than on any medicines, in keeping the malady at bay. He must live moderately, and dine earlier than the present fashion enjoins. Gentle, but regular exercise, and a mind free from anxiety, and not exhausted by deep study, are also among the precautionary measures; and in addition to these, the patient must be chaste. Pliny alludes to this, and uses a remarkable word in expressing it—*sanctitas*.

"In concluding his valuable and interesting remarks, the learned President stated that he had repeatedly seen the waters of Aix-la-Chapelle of much use in restoring the weakness of the knees and ankles, brought on by repeated attacks of other disease."

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45. *Treatment of Chronic Dysentery by Sulphate of Copper.*—It may be recollected that some years since Dr. Elliotson in a paper in the Medico-Chirurgical Transactions, recommended the sulphate of copper in the treatment of chronic dysentery. The following observations on this subject extracted from a clinical lecture given by him at St. Thomas's Hospital in March last will be read with interest.

"There was likewise presented a case of *chronic dysentery*, which exemplified the good effects of sulphate of copper united with opium. This man, like most of the patients that we take in here with chronic dysentery, I might say, perhaps, all, had been in a hot climate. He had several stools a day, and when he came in they were bloody. I began the sulphate of copper in doses of half a grain, three times a day, with half a grain of opium. These were gradually increased; but while I was employing them, there was no reason whatever for not having recourse to any antiphlogistic measures that might appear necessary. He complained of tenderness in the situation of the transverse arch of the colon; and, on that account, leeches were applied there from time to time. I think it impossible to say, as I have already mentioned, in chronic dysentery and chronic diarrhœa, whether there is ulceration or not; if, however, there be ulceration, that is no reason why a patient should not get well. Intestines are continually opened where cicatrices are seen, and sometimes very considerable ones too. You will find this mentioned by Dr. Latham, in his work on the Disease of the Penitentiary; you will find it mentioned by Andral. You will find that Mr. Howship mentions a case of cicatrization to a very great extent. I have frequently seen intestines in a state of ulceration at some parts, and of cicatrization at others, showing that ulcers had healed; therefore, whether there is chronic

inflammation merely in these cases, or whether there is ulceration in addition, there is no reason whatever for not persevering with our measures: the one case may be cured like the other. Chronic inflammation in the intestines will destroy life equally with ulceration. I have seen people sink under violent purgings, which have continued for some months, where there was not the slightest ulceration; and, again, I have seen persons who have lived for many months with their intestines ulcerated to a great extent. I never saw a greater mass of ulceration than in the intestines I showed you last Tuesday, and that man had unquestionably been in that state a great many months. The condition of the fæces is exceedingly various; sometimes they are bloody, sometimes they are not bloody at all. The man, to whose case I have just alluded, never had a speck of blood in his fæces; whereas, on the other hand, I have sometimes seen in mere inflammation a great quantity of blood. Then, with respect to pus, there never was the appearance of pus in that man's secretion: on the other hand, in diarrhœa, you will frequently observe pus, although there is no ulceration. In that man's large intestines, the whole mass of fæces was of the healthiest description.

"The present case was useful as showing a fact which is seen continually, respecting doses of sulphate of copper; namely, that the difference of half a grain may make all the difference in the benefit. This man took at last two grains, three times a day, with a certain benefit; but, not mending so fast as could be wished, the dose was increased to half a grain more; the result of which was, that he immediately began to improve rapidly. I believe I have mentioned before that it should be given in a solid form, and not on an empty stomach; and that it is best combined with opium, at least in the first instance. I have frequently given it with two or three grains of opium, and at last have gradually diminished the opium till I left this off altogether. As, however, besides being an astringent, it is acrid, it is best to obviate the effect of the acrimony by opium. Of course, where it is given with opium, you cannot tell what are the effects of the sulphate of copper and what of the opium, because the opium itself has a strong tendency to check the diarrhœa. It is only from the comparison of a number of cases treated with opium and sulphate of copper, with cases where opium only was employed, and from cases where the opium has been greatly diminished and omitted, while the sulphate of copper was increased and continued, that the fact can be ascertained; and by comparing cases where opium was first given alone, and then the sulphate of copper added. It is only by these observations that its use can be proved. Of its good effects alone, I have no doubt; but knowing the advantage of opium, I consider it my duty to give a patient all the benefit that medicine will allow, and therefore I unite them together, provided the opium do not disagree.

"There is a case in the same ward at this moment, of chronic dysentery, which was very bad, but is now doing exceedingly well, and which also illustrates the benefit arising from the addition of half a grain only of the sulphate of copper. It has occurred in a young man who, I believe, has been at St. Helena. His stools continued bloody; when he came in, he had a great many in the day, and had been ill a year and a half; he had ten stools a day, sometimes twelve, sometimes fifteen. There was tenderness of the abdomen, and, therefore, to give astringents without attention to the inflammatory state, would have been wrong. Astringents for the diarrhœa were indicated, but still there was so much tenderness that I thought it right to apply leeches to the abdomen, and he had twenty applied from the 2d till the 15th, and then I began to give him half a grain of opium, and half a grain of sulphate of copper, which was gradually increased till I came to two grains each; under which he continued improving, but not so rapidly as I desired. On the addition, however, of half a grain, he instantly began to mend very considerably. The last report is, that he had only one motion in the course of the twenty-four hours, and that of an healthy appearance. His stools before were liquid, and more or less bloody, but now they are generally healthy, and rarely show any blood."—*Lond. Med. Gaz. June*, 1831.

46. *Treatment of Neuralgia by Moxa.*—Mr. Cooper, in a short communication in the *North of England Medical and Surgical Journal*, for November, 1830, strongly extols the utility of moxa in that form of neuralgia arising from idiopathic inflammation of the nerves, and he relates four cases of neuralgia of the sacro-ischiatic nerve successfully treated by this mean. The chronic form of this disease usually bids defiance to almost every plan of treatment. Cupping, leeches, blisters, turpentine, tartar emetic, warm baths, carbonate of iron, &c. afford in some instances none, and in others only a transient mitigation from torture. In these protracted and severe cases, Mr. Cooper says, "the moxa operates a surprising change; immediately on its application, it entirely subdues the pain of the nerve, which in some cases never returns, when the metastasis is complete; in others the relief becomes permanent by establishing and perpetuating a discharge after the separation of the eschar.

"Artificial moxa may be formed by immersing lint in a strong solution of the nitrate of potash, and after moulding it into a cone and allowing it to dry, it will be fit for use. The application is made by placing the base of the cone over the affected part, and retaining it in that position till the whole is incinerated.

"Case I.—John Robinson, aged thirty-two, by trade a wool comber, applied to me in the spring, 1827, for neuralgia of the sacro-ischiatic nerve, under which he had laboured above six months, he was quite emaciated, from intensity of pain, loss of sleep and appetite. The remedies that were tried gave no relief till the moxa was applied, which immediately relieved the pain, and he was soon restored to his wonted health and vigour—he has had no relapse.

"Case II.—September 9th, 1827.—J. Hinchliffe, aged fifty, has had severe pain along the whole course of the sacro-ischiatic nerve some months, which has greatly impaired his general health, no plan of treatment was of any avail till the moxa was applied behind the trochanter, when the relief to the parts contiguous was immediate; it required a repetition however before it became permanent in this part. The pain continued in the leg notwithstanding the application of moxa twice to the hip, this was also entirely removed by employing the same agent over the nerve.

"Case III.—Elizabeth Thomas, aged forty-three, has had severe pain in the sacro-ischiatic since December, 1828; in February, 1830, I applied a moxa behind the trochanter, which gave immediate ease. The pain still continued in the leg, for which a moxa was applied below the knee and was followed with the same favourable result.

"Case IV.—May, 1827.—John Dobson, forty-five years of age, complains of pain along the parieties of the chest, which he has felt for several years, and which has progressed in spite of all remedies. On examination of the spine, there was considerable tenderness of the superior dorsal vertebræ, to this part a moxa was applied with complete success.

"Cases in confirmation of the efficacy of moxa in neuralgia might be multiplied, but those briefly detailed will suffice to recommend it, as deserving of a more extensive trial. So uniform has been the success of its application in my hands, that it approaches almost as near to a specific, in that form of the disease under consideration, as bark is a specific in intermittent fever."

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47. *Inhalation of Iodine and Chlorine in Consumption.*—We hope in our next number to be able to present a summary of the state of our knowledge in relation to the effects of iodine and chlorine, in the treatment of pulmonary consumption; in the mean time the following remarks by the distinguished physician of St. Thomas's Hospital, Dr. Elliotson, cannot fail to prove interesting. We extract them from a clinical lecture delivered in May last, and a report of which we find in the *Medical Gazette*.

I have now used, says Dr. Elliotson, the inhalation of iodine in several cases, but I cannot say that in one it has yet effected a cure. I have used it in three cases, where there was decided excavation of the lungs, and in all three death

has taken place, I should think, much about the time it would otherwise have done. These were cases of excavation of the lungs; but whether it would cure the disease before excavation has taken plaee, I cannot, of course, pretend to say. I confess I have very great doubts on the subject; and when any person tells me that he has ascertained the existence of tubercles in the lungs, and found them disappear under the use of iodine or any other medicine, I must be well satisfied that that person is a *very excellent* auscultator, before I can give credit to his assertion. I do not think that many people are able to say in general with certainty that tubercles exist in a solid state, without excavation, and that, after a time, these tubercles disappear. I should very much doubt any observations of my own on such a matter, notwithstanding I have carefully attended to auscultation now for several years; because you cannot satisfactorily ascertain the existence of tubercles unless they are very numerous and aggregated so as to render one spot of the lungs solid. I have frequently found tubercles in the lungs after death, where no sign of them whatever was given during life. Where, however, they are aggregated, so as to form a mass, there, of course, on striking externally, you will find a dead sound, and there will be less respiration there than natural, or none at all. But persons ought to be exquisitely nice auscultators to be able to declare the existence of tubercles with certainty, unless the deposition is considerable. We know that in chronic bronchitis, large tubes may be blocked up for a time, so that no respiratory murmur can be heard at the spot, and that afterwards these tubes will become open, and respiration be heard. I have seen respiration of a whole lung thus absolutely suspended for a whole fortnight, without any bad symptoms, and then the respiratory murmur spontaneously return. When we reflect on this, and the extreme difficulty of detecting tubercles, if not thus aggregated, before excavation has taken place, we ought not to place easy faith in the accounts which are given of tubercles having existed in the lungs and been removed. I do not presume to assert that such things have not taken place, but I confess I would rather witness them myself than believe such observations on the statements of others, unless, indeed, they were the conviction of several persons, known to be excellent auscultators; not of one or two individuals. I should doubt my own observations alone; I would not assert that tubercles had existed, and been removed in a single case, unless several friends, on whom I could depend, confirmed my observations on the particular cases, excepting, of course, instances of tubercular *masses;* and that iodine will remove them I much doubt. I would not place any reliance upon the observations of any one who declared he could ascertain all by the naked ear that others could by the stethoscope; because this instrument affords infinitely greater nicety of observation. If the plug is removed, the sound of both the heart and respiration are greatly magnified; there are some places of the chest to which the ear cannot be applied, as, for instance, in the axilla; and the contact of the side of the head with the chest is so much greater than of the instrument, that adventitious rustling sound frequently obscures the observation: lastly, the stethoscope can be applied to each individual point of the chest successively, with extreme nicety and expedition. Of course, the naked ear will give great information. But the nicety of the stethoscope is altogether far greater.

I have, however, used iodine in other cases than these three, but what has been the result I do not know. Several cases I have not seen again, and others are still in progress; but I cannot say that in any of them there has been such an improvement as to make me entertain very sanguine hopes of ultimate success. At the same time it would be very wrong to discourage trials. Such attempts are in the highest degree laudable, and I have no great respect for those persons who think that the profession can never be improved, and are content with allowing their patients to die under the old-established jogtrot routine of means—well established as unsuccessful. We ought not to go on affording mere palliation when there is the slightest probability of doing real good, or of doing, in the slightest degree, more good than before, by any new means. I

think it shows a very narrow mind to set one's face against attempts at improvement. I therefore give credit to all gentlemen who suggest any thing new, and still more to those who make exertions to carry such things into effect; but certainly I have not found even such temporary benefit under iodine as would give me very sanguine hopes. When there has been no evidence of any thing more than membranous affection, good has accrued; and, in excavation, certainly some alleviation. But I have used chlorine with certainly very considerable alleviation. I am attending a lady at this moment, who could not bear the inhalation of iodine in the quantity of a drop of the saturated tincture to three-quarters of a pint of water; it produced irritation, and yet she is able to inhale, in the same quantity of water, twenty drops of the saturated solution of chlorine, and the effect has been such, that her cough is nearly gone, and her expectoration reduced in a very great degree. I cannot believe that she will get well; but the amelioration has been such as I never saw before under the use of narcotics, or any other means whatever. There is a patient in this hospital labouring under phthisis and other complaints, and very bad he is, who could not bear the iodine. He used the smallest quantity that can be employed, but it immediately produced uneasiness, whereas he bears chlorine very well. In him the expectoration and the cough have been so reduced, that he will hardly allow there is any thing the matter with him. He says I have given him a new inside. The expectoration still exists to a certain extent, but the mitigation has been such as I never saw before in phthisis, from any means whatever. I have seen several other cases, both in private and public, where there has been a great mitigation under the use of chlorine; but whether it possesses curative powers, I cannot, of course, at present say. The iodine I know very frequently irritates, and it is necessary to add the tincture of conium, or of opium, or prussic acid, or hyoscyamus, to the solution, in order to prevent its injurious effects, but I have not found this necessary with chlorine; and when narcotics have been inhaled with iodine, they may often have deserved the whole credit, for I know that alone they are extremely useful.

I beg to observe that these are very crude observations, as I have only been using these remedies for two months. As, however, I shall not give any more clinical lectures till next season after the present month, it is right that I should communicate these things to you, because it will be for your advantage to know that chlorine, at any rate, will produce such an amelioration as I have now mentioned, and that iodine really deserves a fair trial. It is a striking fact that persons who cannot bear iodine in any quantity whatever, can bear a full portion of chlorine: it is not in one case or two merely that I have observed this circumstance.

I think, as medical men, we have all been much to blame for neglecting the inhalation of various substances, though proposed and practiced thirty or forty years ago; because we make applications to the surface of the body when it is variously diseased, and to the alimentary canal, and by inhalation we can make application to the air-passages themselves, when they are diseased. Nothing is easier than to make people inhale different substances by means of warm water. Inhalation is a more difficult thing if you employ gases; it cannot be done unless you have a large receptacle, with the substances of the exact strength that can be borne; but by causing the patient to inhale through impregnated water, so that the air is impregnated by the substance you employ, you can in that way employ any quantity you think proper of various substances. You have simply to take a common bottle with a broad mouth, and put a bung in it, with two apertures, through which you introduce two glass tubes. One of the tubes should pass to the bottom of the fluid, to let down the air from the atmosphere, and the air then rises up the fluid to the surface, and ascends the other tube, which merely passes through the cork, not descending so low as the surface of the fluid, and is breathed *from* at the opposite extremity by the patient. It is the simplest thing in the world, and can be employed without any expense.

48. *Powdered Alum, a cure for the Tooth-Ache.*—Dr. Kuhn asserts that alum, finely powdered, not only relieves the tooth-ache, but that it also arrests the progress of caries in the tooth. One or two grains are to be inserted into the cavity of the tooth, and this is to be repeated when the pain returns. In a short time, the pain will cease to recur, and the chemical action which constitutes the caries will cease.—*Gazette Méd. de Paris, June 5*, 1831.

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49. *Antidote to Chlorine, and to Sulphuretted Hydrogen Gas.*—It results from the experiments of M. Hünefeld, 1st. That when inconvenience is experienced by the inspiration of too great a quantity of chlorine gas, the best remedy is to inhale sulphuretted hydrogen gas, which speedily dissipates the serious symptoms. 2d. That in case of suffocation or asphyxia produced by sulphuretted hydrogen gas, the inhalation of the chlorine, in its turn, is the best remedy.—*Bulletin des Sc. Med. January*, 1831, *from the Archiv. für Medoz. Erfahrung, Sep. Oct.* 1829.

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50. *Employment of Calamine to Prevent the Pits of Confluent Small-pox.*—Mr. George, in a communication in the *London Medical Gazette*, for April last, states that the pits caused by confluent small-pox may be prevented by covering the surface of the sores with prepared calamine. In a man, twenty-four years of age, who, about the tenth day of the disease, was much exhausted by the disease, and in whom the cuticle, from adhering to the bed-clothes, was abraded to the extent of six or seven inches on each hip, and to the same extent in each ham and on the back, Mr. G. covered the exposed surfaces with prepared calamine. In four days the cuticle was every where restored, and the patient recovered more rapidly than usual. There was afterwards not a single pit to be observed where the cuticle had been so extensively removed, and even the immediate surrounding pustules which were unavoidably covered with the powder, had not destroyed the cutis.

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51. *On Opium in Inflammatory Diseases.*—Dr. Bow, in a paper in the *London Medical and Physical Journal*, for July last, strongly recommends the external application of Opium in inflammatory diseases. He employs it in the following form. ℞. Opii. ʒj.; Linim. Camph. c. ℥j. Digere per dies aliquot et effunde linimentum. Many cases of catarrh, he says, are cured by one or two applications of this liniment, as if by charm. We give one of his cases, that of a child nine months of age, affected with bronchitis. The breathing was difficult, the inspirations being short and frequent, accompanied with a wheezing noise; the face very pale, the lips having a purple tinge; skin exceedingly hot; hoarseness of the voice when the child cried; pulse rapid. The child had been ill for some days, but the mother, thinking that nothing ailed it except a common cold, did not become alarmed until this morning. Nothing had been prescribed before I saw it. Two grains of calomel were given, and the breast and back rubbed with rather more than a drachm of opiate liniment.

"The calomel was rejected from the stomach almost as soon as taken. After the application of the liniment, the child fell into a sound sleep: at two o'clock he awoke, and sucked greedily; and at our visit, a little after two, we found him in a profuse perspiration, the voice perfectly free from hoarseness, and the breathing comparatively easy. At four o'clock, the breathing had again become difficult, but, in degree, nothing equal to what it was in the morning: the calomel and liniment were repeated. At six o'clock, the child seemed calm and contented; the eyes were sprightly, and some colour had returned to the cheeks. A portion of liniment was left with the mother, with orders to apply it, should the breathing again become hurried.

"15th February.—About three o'clock this morning the liniment was applied, as the mother thought the state of the breathing required it. At our visit at ten A. M., we found that the bowels had been twice moved; the effect of the calomel. The child seemed quite well, and therefore nothing was prescribed.

At seven P. M. the child continued well. At the request of the mother, a portion of the liniment was left, to be applied if required.

16th. The liniment was not applied. Cured."

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52. *Leucorrhœa.*—Dr. Bazzoni, in a memoir in the *Annali Universali di Med.* for February last, extols the powers of the secale cornutum in the cure of leucorrhœa. He relates eight cases of the disease relieved by that remedy.

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53. *Dropsy cured by Kahinça.*—Two cases of dropsy successfully treated by the root of kahinça are recorded in the *Transactions Medicales* for March last, by Dr. Francois.

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54. *Cure for the Tooth-ache.*—The learned editor of our esteemed cotemporary, the *London Medical and Surgical Journal,* Dr. Ryan, recommends the nitric acid as affording immediate relief in the tooth-ache, when arising from caries. He says that he has used it in numerous cases, and invariably with success. In some instances the disease does not return for days or weeks, and in others not for months. The best mode of employing it, according to Dr. R. "is by means of lint wrapped round a probe, and moistened with the acid, which is then to be slowly applied to the cavity of the tooth; care being taken not to touch the other teeth, the gums, or the cheeks. On withdrawing the probe, and inquiring how the patient feels, the usual reply is, 'the pain is entirely gone.' The mouth is next to be washed with tepid water. The acid should be gradually applied to the whole cavity of the tooth, or otherwise a second application will be required before complete relief will be obtained.

"This remedy may be used when the gum and cheek are inflamed, so as to preclude the possibility of extraction. In cases where the diseased fang remains, and when the caries faces the adjacent tooth, it obviates the necessity of extraction in all cases of hollow teeth, which all practitioners declare to be desirable, if possible; and it enables the dentist to perform the operation of 'stopping or filling teeth,' much sooner than he can otherwise accomplish. In a word, it will alleviate a vast deal of human suffering, and supersede a most painful operation. It is not a panacea for all the diseases of the teeth and gums, though a certain and efficacious remedy for the common cause of tooth-ache. It will be a valuable remedy for children, delicate persons, and pregnant women. It does not accelerate the decay of the tooth to which it is applied."

OPHTHALMOLOGY.

55. *On the Utility of Strychnia in certain forms of Amaurosis.* By Mr. Middlemore, Assistant-Surgeon to the Birmingham Eye Infirmary.—It is readily admitted that the term amaurosis comprises a variety of pathological conditions, not only most diversified in their seat, but various in their state; for instance, an accumulation of fluid in the infundibulum, producing pressure upon the optic nerve; or an alteration of the ossific aperture through which the optic nerve passes; an atonic state of the retina, unattended with any organic alteration; or an increased fulness of its vessels from general plethora, have all been designated by the term amaurosis, whenever they have led to much diminution of the power of vision; yet nothing can be more different, either as regards the seat of the mischief, or the state of the parts affected, than these several morbid conditions. It is not, however, from an intention to demonstrate the necessity of adopting a more precise and definite term, for the designation of the disease in question, that I have alluded to, what appears to be a great defect in the name generally applied to these various conditions of morbid action or altered structure, but to point out the necessity of selecting that particular state of the system, or the retina, or other part of the nervous apparatus of the eye,

leading to partial or total bindness, for the employment of a remedy which, on two former occasions, I ventured to recommend to the notice of the profession. It will be readily conceded, that on this circumstance depends the probable success or otherwise of the local application of strychnia in amaurosis; and, as I am well aware, that its use is attended with annoyance to the patient, and trouble to the surgeon, and that on this account it is not likely to be had recourse to, unless under an impression of its great value; and as the first trial, if unattended with advantage, will in some instances lead to its discontinuance, I shall trespass for a short time upon your pages, in order to impress upon the serious attention of your readers, the description of amaurotic symptoms which have been present in those subjects, in whom I have most advantageously had recourse to its assistance.

During the last six months I have received from several medical friends, a request to take under my care persons suffering from amaurosis, for the express purpose of subjecting them to a trial of the local application of strychnia, but in nearly every case they have been very unsuitable subjects; and, in some instances, it would have been highly improper to have attempted its use. The last patient I saw was one of this description; he was an attorney's clerk, who had been accustomed to write for many hours by a strong gas-light; and he remarked, (which, by the bye, is a very general observation,) that he was compelled to increase the strength of the light until the flame was eventually of a very vivid description; the strength of light with which he could see extremely well, when he first commenced the burning of gas, afforded him, after a time, little more than an indistinct perception of surrounding objects, and he was consequently compelled to increase the power of the flame, as has been mentioned; in this way he continued sometimes writing three or four, at others, six or seven hours together, by the assistance of this immoderately augmented light; by this means an attack of subacute retinitis was induced, an attack neither so rapid in its progress, nor so obviously disorganizing in its effects as the acute retinitis, nor so tardy in its course as the chronic form of this disease. I did not see this patient until his vision was nearly destroyed, when an examination of the eye, and an investigation of the history of the case, assured me that it was quite nonsuited to the advantageous employment of strychnia. Had the remedy been used in this case, it is quite obvious that the patient would have suffered the inconvenience of its application, without any chance of deriving the slightest benefit; and it is by no means improbable that it might have been discarded from the good opinion of the gentlemen who had only been induced to try its powers in consequence of the recommendation of others; nothing, however, would have been more unfair than to have concluded from such a description of experience, even presuming the strychnia had been tried, that it had no influence upon the disease designated by that indefinite term, amaurosis. In nearly every instance in which I have employed the strychnia, locally, for the purpose of restoring lost, or improved impaired vision, other modes of treatment had been previously adopted, and the patients had been under the care of those, who, from my knowledge of their skill and acquirements, would treat them in the most judicious manner according to the general rules of practice in similar cases, so that I have had the great satisfaction of proving most unequivocally the decided value of the remedy in question.

If a person be suffering from loss or diminution of the power of vision from an atonic state of the retina, or other part of the nervous apparatus of the eye, or of the system generally, the local use of strychnia, (applied in the following manner,) will be, in my opinion, the most likely means of removing the defect, more especially, if it be of recent occurrence. But it will, in many instances, be found necessary to institute a most rigid examination, before deciding upon the necessity or propriety of the treatment: for instance, the history of the patient must be closely investigated, and the eye subjected to the most attentive examination, and if the result of this inquiry and examination lead to the opinion that the defect does depend on the atonic condition of one, or all the parts

to which I have just alluded, he may, with safety, be subjected to the very tedious and somewhat painful plan of treatment it remains for me to explain; but it will be readily admitted, that if this examination be not conducted in the most careful manner, it will be impossible to discriminate, with any approach to certainty, the particular conditions of the retina, and other parts of the nervous apparatus of the eye, productive of amaurosis, which admit of alleviation or removal; nor can the trial of strychnia, without such a preliminary investigation, be viewed, as otherwise than a rash and criminal procedure; a procedure which is more likely to destroy the power of vision for ever, than to yield any prospect of relief. Having pointed out that condition of the retina, or other parts of the nervous apparatus of the eye, or of the system, (which I have termed atonic,) capable of being relieved by the local application of strychnia, it may be thought right to complete the treatment, it may be frequently necessary to combine with this local remedy; but as my object is merely to recommend the employment of the more important remedy; and as the various tonics and stimulants, which it may often be adviseable to use at the same time can be readily adapted to the circumstances of individual cases; and as they form but a very secondary and subordinate part of the treatment, I shall not extend my observations, nor trespass upon your pages to attempt the supply of this trivial deficiency.

The following case not only illustrates the mode of using the strychnia, but explains the condition of retina producing amaurosis, which has appeared to me likely to be benefited by its use, unless, indeed, it be admitted, that a suspension of its action for a long period, induces some alteration of structure, not indicated by constitutional symptoms, nor evidenced by local changes, by which it is permanently unfitted to receive and obey the stimulus of light. A few years ago, I attended a Miss P. of this town, who had, many years since, been operated upon for cataract, by the late Mr. Saunders; she was about nine years old at the time of the operation, which was very well performed, if we may judge from the appearance of the eyes, which do not present any traces of inflammatory mischief, and are only to be distinguished from perfectly healthy organs by the large size of the pupil, a rotatory motion of the eyeball, and a small remnant of capsule at the side of the pupil, this girl is highly intelligent, and in a moderately good state of health, and, with the exception of the defects just mentioned, her eyes are perfectly natural and healthy in appearance, and yet she has never been able to distinguish the form, colour, or magnitude of surrounding objects, having merely a perception of light, and a capacity to distinguish its degrees, when varied from an extremely feeble to a very brilliant light; a power which she possessed, though to a less extent, prior to the performance of an operation. Considering the defect of vision to have arisen in consequence of permitting the retina to remain for so many years unimpressed by its natural stimulus, and that by exciting its sensibility, it might still be rendered obedient to the stimulus of light, I employed the strychnia in the following manner:—having placed a blister over each eyebrow, and afterwards cut away the raised cuticle, so as to expose an extensive surface, which would be likely to prevent the frequent necessity of re-blistering the part, I sprinkled the strychnia equally upon the whole of the surface, commencing with the sixth of a grain upon each, and gradually augmenting the quantity until I was enabled to use a grain upon each side, at which time she had occasionally a much increased perception of light, with frequent scintillations; but, unfortunately, the remedy began to affect the head, producing so much uneasiness and nervous disturbance that I did not judge it prudent to persevere in its use any longer, much less to increase the quantity, to that extent, which, in my opinion, was indispensable to success. In the course of the treatment, I was pleased to hear this patient complain of the sensation of scintillation, as, on former occasions, that symptom had been frequently followed by the most satisfactory result; and although in this instance I was unable to persevere as I could have wished, in consequence of the extreme head-ache and other symptoms, yet it is still hoped, that on

some future occasion, she may be enabled to bear the requisite treatment, without a recurrence of these untoward symptoms.

There is one other circumstance which was remarked in this case, and which appears to me worthy of recording; when the blistered surface had healed in its circumference, I was compelled to place nearly the whole of the strychnia upon a very small space, indeed, a great part of it was dusted upon, and immediately around the situation of the supra-orbitary nerve; and it was observed that the remedy acted with greater advantage, than when placed upon a larger extent of surface. It immediately occurred to me that the nervous connexion subsisting between this branch and the nervous supply of the iris, afforded a satisfactory explanation of the circumstance. Acting upon this impression, I repeated this mode of application upon a patient soon afterwards, and instead of applying a long narrow blister over the whole eye-brow, and partly upon the temple, as on former occasions, I directed the lower border of the blistering plaster to be placed, as nearly as possible in, and just above the situation of the supra-orbitary notch, desiring that it might not extend beyond the outer edge of the eye-brow, and, in this case also, the advantage of limiting the application of the remedy was equally evident. As, however, the quantity it may be necessary to use, in order to produce the desired effect, will in some patients be considerable, and, as we cannot calculate upon the absorption of a thick layer of powder, with the requisite degree of rapidity, it will often be adviseable to scatter it more extensively; bearing in mind, of course, that only as much of the strychnia must be placed in the situation we have considered to be that in which it acts most efficiently, as can be absorbed within the time allotted for a second application.

If, in the case of Miss P. the use of strychnia had been commenced soon after the failure of the operation of solution had occurred, there would have been every prospect of the recovery of a much greater degree of vision than she at present enjoys; but, as the retina had remained in an unexcited state for so many years, it was not probable that any treatment would restore its power, and it was only after an explanation to this effect; after having explained the very little chance of success the application of the strychnia afforded, in consequence of the long duration of blindness, that I consented to adopt the treatment she was desirous of undergoing.

The following brief directions will include all that I have hitherto found necessary to insure the full action of this remedy: place a narrow blister over each eye-brow, which must not extend beyond a line drawn upwards from the external canthus: when it has risen sufficiently, cut away all the cuticle and apply, for half an hour, a piece of linen to absorb the serum, which is apt to be discharged in large quantities for a short time after the removal of a blister, then dust the remedy chiefly in the situation of the supra-orbitary nerve, but not so thickly as to prevent the entire absorption of the whole layer of the powder, at the time of the second dressing, which should be, as nearly as possible, twenty-four hours afterwards; twenty-four hours between each dressing is a proper and necessary interval; cover the blistered surface with a piece of linen very thinly spread with ung. cetacei, for, if much greasy matter be mixed with the powder, it is less easily and quickly absorbed; but, unless a little be applied, the linen adheres to the wound and occasions great pain in its removal. Increase the dose of strychnia very gradually until the state of vision is improved, or symptoms indicative of the injurious agency of the remedy occur. If there be much local pain excited by the application of the strychnia, dilute it with flour, or mix it with opium; and if that do not succeed, suspend its employment until the stomach and bowels be improved by a plan of treatment instituted expressly for their benefit, and then resume its use; if severe pain in the head, convulsive muscular twitchings, great general nervous excitement, or other symptoms, denoting the injurious agency of the strychnia upon the constitution supervene, and the condition of vision be not improved, it must be discontinued altogether; as it would appear probable that in such case it was

not likely to exert a favourable influence upon the disease, at the same time, that from some peculiarity of constitution, it was calculated to do important general mischief.

The case of Miss P. is one, amongst others, which have fallen under my notice, strongly illustrating the propriety of the recommendation of the late Mr. Saunders, with regard to the early performance of an operation for the removal of congenital cataract. As it is impossible to conceive a greater argument in support of the opinions of that amiable man and excellent surgeon, upon this subject, than the remarks of Dr. Farre on the success of his (Mr. Saunder's) operations, performed upon children at various ages, I shall beg leave to make the following brief extract from them. The sensibility of the retina "in many of the cases cured at the ages of four years and under, could not be suppressed in children who had enjoyed vision from birth; but at eight years, and even earlier, the sense was evidently less active; at twelve it was still more dull; and from the age of fifteen and upwards, it was generally very imperfect, and sometimes the mere perception of light remained."

On account of this disposition of the retina to remain in a permanent condition of inaction, when unaccustomed for a long time to the influence of its natural stimulus, it has been recommended on high authority, to remove a cataract from one eye, when fully formed, when its fellow is perfectly healthy; apparently forgetting that the retina of an eye so circumstanced, is by no means in the same unexcited state as that nervous expansion in the eyes of a patient affected with congenital cataract. For, if one eye only be affected with cataract, (not congenital,) the other eye remaining perfectly healthy, the action of light upon the retina of the sound organ, will produce a sympathetic impression to a certain extent, upon the other, and thus preserve its susceptibility, though in a diminished degree; whereas, in the case of congenital cataract affecting both eyes, the retina has never been fully and perfectly impressed with the stimulus of light, and its susceptibility gradually diminished on the one hand, whilst its stimulus declines on the other; the declension of stimulus arising from the increasing density and opacity of the cataract, and the diminution of susceptibility being dependant on the inactive state of the retina, increased by the gradually diminishing quantity of light transmitted through the humours of the eye, from the cause to which we have just adverted.

It has been said that, if a mature cataract be allowed to remain in one eye, it disposes that organ to become amaurotic, and has a tendency to excite a similar disease in its fellow; and whilst it limits the sphere of vision, it weakens the opposite organ by the undivided labour it obliges it to sustain. As I have never had the slightest reason to believe that an opaque condition of one lens, possesses in itself any capability of exciting a similar state in the lens of the opposite eye, and as my attention has been particularly directed to the investigation and elucidation of this circumstance, I must refuse my assent to this doctrine, until future observation has increased our knowledge upon this point.

With regard to the other objections, I will merely observe, that whenever one eye only has been affected with cataract, which has not been congenital, nor produced by accident, the vision of that eye has been generally restored by an operation, however long the cataract may have existed; or, rather, the retina has, after such operation, indicated its capacity to be properly excited by its natural stimulus. Of course I am presuming that the operation has been judiciously adopted and properly performed, and that no effects injurious or destructive to vision, have been produced by the operation. If congenital cataracts had been permitted to exist for the same number of years, as in the cases now referred to (though not detailed,) from my notes, and which have furnished me with the data for my present opinions, the degree of success consequent on the performance of an operation for their removal, would have been much less considerable, and, in many instances, judging from the result of operations undertaken for the cure of congenital cataracts, upon patients at the age of ten and upwards, no vision whatever would have been restored.

From these remarks, and from opinions formed after the maturest deliberation, I would deduce the following conclusions; and 1st, that although the retina in the case of congenital cataract affecting both eyes, is likely to remain in a permanently atonic state, if the opaque lens be not removed at an early period of life, yet the same condition of retina is not likely to be produced by the existence of cataract in one eye, for an equal number of years. 2nd, that experience does not warrant a belief, that the existence of an opaque lens in one eye, has a tendency to excite a similar disease in the opposite organ. 3rd, that so long as the sight of one eye remains perfect, the field of vision is sufficiently extensive for every useful purpose; and lastly, that in many persons who have lost the power of vision with one eye, the sight of the remaining eye has continued with the same, or nearly the same, degree of vigour, as under ordinary circumstances.—*Midland Medical and Surgical Reporter, May and August*, 1831.

56. *On the efficacy of the Nitrate of Silver Ointment in leucoma, and dense opacity of the cornea.* By Mr. MIDDLEMORE.—Sometimes the cornea may be the seat of leucoma, which may or may not be combined with synechia anterior; and if this leucomatous state of the cornea be very extensive, or unusually dense, the power of vision will be very generally limited to an indistinct perception of light, and, in other instances, vision will be totally destroyed. In such cases, the iris will be frequently uninjured, and the deep-seated textures unimpaired, and the retina quite capable of performing its proper function, if the opaque condition of the cornea did not prevent the transmission of light. It is, therefore, a point of the utmost importance, to remove this opaque state of the cornea with as much speed as possible; but, in many of these cases, the oxymuriate drops, and the various stimulants usually employed for this purpose, either fail to remove it altogether, or do so only partially, after the lapse of a very long period. In these instances, I have witnessed the most surprising results, from the application of the nitrate of silver ointment, used daily, or every other day, according to the effect it produces. Many persons, who had relinquished all hope of recovering any useful degree of vision, and who, according to the ordinary mode of treatment, would scarcely, under the most favourable circumstances, have discovered any increase of vision, after one or two years attendance, have been partially restored to sight in as many months; and in the space of five or six months, the leucoma has entirely disappeared, except at that point where the ulceration of the cornea, producing the leucoma, had extended through the whole, or nearly the whole, of its layers.

If this leucomatous condition of the cornea, or a state of simple opacity of the cornea, (always presuming that the corneal opacity be very extensive, and of considerable density,) be connected with an enlargement of vessels, which enlargement may be confined to its conjunctival covering, or may form the ostensible vascular organization of the substance constituting the opacity or leucoma, and may be therefore more deeply situated; the same mode of treatment is equally applicable, and will be equally successful. When either of these states of the cornea occurs as the result of purulent ophthalmia, the chances of success will be still greater, on account of the comparatively short period which has elapsed since the new substance, constituting the opacity, has been deposited and organized, and the greater activity of absorption at that early period of life.—*Midland Med. and Surg. Reporter, August*, 1831.

57. *Pannus.*—In our department of Materia Medica, we have given the formula for the preparation of nitrate of silver ointment; that ointment Mr. MIDDLEMORE recommends in various affections of the eyes, and among others, he states that it is calculated to render the most important service in that thickened, opaque, and vascular state of the conjunctival lining of the eye, usually termed pannus. This condition of the mucous covering of the cornea, is frequently combined

with, and produced by, a vascular and granular, or, (what is more infrequent,) a cutaneous state of the palpebral conjunctiva; but, whether this condition of the palpebral conjunctiva be present or otherwise, whether the mucous covering of the cornea be merely thickened and rendered opaque, or, in addition to this thickened and opaque state be also vascular, Mr. M. says that the use of the nitrate of silver ointment is equally called for, and promises the most speedy and material relief. Of course it would be desirable to cure any defect requiring operation for its removal, which appeared to be maintaining and increasing this morbid condition of the cornea, before having recourse to the ointment; for instance, there may be an incurvation of the tarsal cartilage, an irregularity in the growth of one or more of the eye-lashes, or an inversion of the whole of the eye-lashes, from their unnatural position at the *inner* border of the tarsal margin, which having produced the alteration in the translucency of the cornea, to which I am now adverting, it would be adviseable, indeed, indispensably requisite, to remove, as a preliminary measure to the adoption of any curative plan of treatment whatever. But the mere removal of this defective condition of the tarsal cartilage, the integuments of the eye-lids, or the direction of the eye-lashes, will not be sufficient to restore the translucency of the cornea; and it is with a view of curing the effects any one of these conditions may have produced, and which the mere removal of the cause which produced them, will not accomplish, that the present plan of treatment is proposed.—*Ibid.*

58. *Chloruret of Lime in Purulent Ophthalmia.*—We have already noticed, Vol. I. p. 459, the chloride of lime having been successfully employed by Dr. Varlez of Brussels, and Mr. Guthrie of London, in the treatment of purulent ophthalmia. In a late number of the *Journ. Comp. des Sc. Med.* Dr. Herzberg relates four cases, in which he employed this remedy with advantage.

We have ourselves employed it in a few cases, but without the striking benefits we were led to expect from the representations of others. It will require further experience to determine its real value.

SURGERY.

59. *Excision of Scirrhous Rectum.*—Mr. Lisfranc has excised the lower extremity of the rectum in nine cases, of which six were successful, for the removal of what is termed by French surgeons, cancer. The peritoneum descends along the front of the rectum to six inches from its extremity in women, to four inches from the same in man. By means of an ovoid incision in the skin around the anus, the rectum can readily be drawn out behind, and any kind of instrument may be applied to it; there exists a second sphincter above the first. M. Lisfranc has removed as much as three inches and a half of the rectum, and he recommends the operation whenever the forefinger can reach beyond the upper margin of the disease, and when the cellular texture, external to the gut is sound. The operator must bear in mind that the antero-posterior diameter of the perinæum is generally one inch, the distance of the anus from the coccyx eighteen lines, and that between the anus and the base of the same bone two inches, that considerable portions of the rectum may be removed laterally and posteriorly without wounding the vagina in woman, or the urethra in man; and finally, that hæmorrhage may always be arrested by pressure or by ligatures. In the performance of the operation the patient is to be placed as in the lateral operation for lithotomy—two semilunar incisions are to be made around the anus—and the rectum to be insulated in its inferior extremity, drawn down by the forefinger introduced into its cavity, and cut off by means of scissors. After the cure, the fæces are sometimes voided in the usual manner, sometimes a *bourrelet* is formed internally, and takes the place of the sphincter, sometimes

there is incontinence of liquid fæces, and sometimes the patient is obliged to stuff the rectum with lint.—*Med. Chirurg. Review, July*, 1831.

60. *Extirpation of Cancer of the Rectum.*—M. Maurin also has performed this operation successfully on a patient, at the Hospital of Versailles. The patient was a man thirty-one years of age, of delicate constitution, who presented himself to M. Maurin in the beginning of September, 1828, complaining that he could not procure a stool, except by the aid of enemata; and that he felt great weight and acute pains in the rectum. On examination by the finger, a hard and irregular tumour was discovered, about two inches from the anus, ulcerated in the centre, and discharging a sanious ichor, of a most intolerable fetor. The mobility of the tumour, notwithstanding its distance from the orifice of the gut, induced the surgeon to entertain the idea of extirpation. Baron Dupuytren was consulted on the 17th of September, and made the following note: "There exists about two inches from the orifice of the rectum a carcinomatous tumour, occupying one side of the gut, to the extent of about two inches. There is no chance of a cure, except by an operation—and this operation must be both difficult and dangerous. If the patient shall make up his mind to the risk of the operation, I am ready to attempt it." *Sept. 21st.* Encouraged by this opinion of so celebrated a surgeon, M. Maurin himself determined to operate. For this purpose he made an incision through the posterior and left part of the sphincter, by means of a probe-pointed bistoury, when the tumour was seized by a kind of tenaculum, and drawn downwards gradually and gently, till it appeared in view, when it was carefully removed by means of scissors. When taken out, it was found to be of an oval form, a little flattened, and two inches in length, with an ulceration on one side. It was of a very compact tissue. The operation was very painful, and considerable hæmorrhage attended, but was soon arrested by stuffing the rectum. In the course of five hours after the operation the patient experienced acute pains in the epigastrium, with dysury, sharp fever, and intense thirst. Two bleedings relieved these symptoms, and he slept some in the course of the night. In the morning the pulse was reduced from 140 to 100, and the patient was again bled. When the dressings were removed, there issued a considerable quantity of pus with blood. In the course of the succeeding days the state of the patient was improved—the purulent discharge lessened—the lancinating pains ceased, and, by the 15th of November, the discharge was almost nothing. Consistent and spontaneous stools were passed. On the 1st of December the wound in the sphincter was found to be cicatrized. On the 8th of the same month, the patient was discharged from the hospital cured. He experienced no difficulty or pain in passing his motions. —*Ibid, Revue Medicale, Feb.* 1831.

61. *Excision of Ulcer of the Rectum.*—This operation has been performed by Mr. Mayo, at the Middlesex Hospital. The patient was a female, thirty-eight years of age, who, for two years previously had experienced pain in the rectum, when the bowels were evacuated. This increased in severity, and was attended by unpleasant sensations about the loins, &c. and some sanguineous discharge. In December, 1830, she entered the Middlesex, labouring under severe pains in the rectum, with the occasioual issue of pus and blood.

On examination of the rectum, it was found to be indurated and ulcerated to the extent of two inches; but the finger could be passed beyond the diseased part into a healthy gut. Various remedies were tried, but in vain. Mr. Mayo then determined on an operation.

"The operation was performed on the 25th of February, in the following manner:—the patient was laid upon her side, with the hips and knees bent. The fingers being then introduced into the rectum, the knife was plunged into the perinæum, on one side of the bowel, and, an incision of some depth being thus made laterally, the dissection was continued forwards from thence, so as to separate the vagina from the rectum. The dissection was then continued

entirely round the rectum, including half an inch of integument, with the sphincter muscle. By this means, a length of two inches and a half of the extremity of the rectum was separated from the adjacent parts: it was then cut off with scissors from the sound rectum above. The operation was performed slowly, and the vessels, about nine in number, were tied as they were divided. The patient lost about twelve or fourteen ounces of blood."

In about two hours after the operation, and when the smarting of the wound had subsided, she observed that she found herself entirely relieved from the pain and distress to which she had been subject for so many months. The appearance of the wound is singular. The extremity of the bowel is not more than half an inch from the cut edge of the skin, and the intervening granulations are healthy and rapidly cicatrizing. The bowels act regularly once a day; and the patient is aware of the presence of the fæces in the rectum. In about five minutes after this sensation is perceived, the bowels act much in the usual manner, though it is evident that there can be nothing at present equivalent to a sphincter muscle. A hope is entertained that when the wound is cicatrized and contracted, the patient will have some power of retaining solid fæces. —*Lond. Med. and Phys. Journal, April*, 1831.

It is stated in a subsequent No. of the Journal, (that for June,) from which we take the report of this case, that the general health of the woman was improved, and the sufferings she experienced from the disease entirely removed by the operation. She can even *perfectly retain* her fæces. As might be expected, however, when she is under the influence of purgative medicine, the contents of the bowels are discharged rather quickly; but it seems far from impossible that, in time the firm cicatrix at the wound, assisted by the action of the muscular fibres of the bowel itself, will form a sufficient substitute, on all occasions, for the sphincter muscle, which has been removed.

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62. *Amputation of the Thigh at the Hip-Joint.*—In the *Glasgow Medical Journal* for August last, a case of this, terminating successfully, is related by Dr. Charles Bryce. The subject of the case was a Greek soldier, twenty-three years of age, who was wounded by a six pound ball, at the battle of Athens, on the 6th of May, 1827. The ball struck the posterior and lateral part of the left thigh, immediately below the trochanter. The integuments and muscles of the hip and thigh were very extensively torn and removed. The trochanter, neck and four inches of femur were broken into minute pieces, but the femoral vessels were untouched, and the mass of flesh on the inside, formed by the adductors, vastus internus, and gracilis, was uninjured. The person complained much of pain, from the distortion of limb, but suffered little from weakness or depression. The bleeding from the wound was inconsiderable. Some wine being given him, and the leg disposed as favourably as circumstances would permit, he was conveyed on board an hospital ship. Upon examining the limb, in reference to an operation, the gentlemen assisting coïncided in opinion, that amputation was authorized under the most favourable circumstances, and that, in our actual state of disturbance and movements, any delay of operation was quite inadmissible. The plan of proceeding was readily determined on, and executed without difficulty, in the following manner:—Firm pressure being made by the cross-piece of the screw of a tourniquet and a pad on the external iliac, immediately above Poupart's ligament, a convex incision was made across the highest part of the thigh and hip, passing from the inside of the sulcus of the blood-vessels, to an inch and a half behind the trochanter, including in this convexity and extent the torn superior circumference of the wound, and exposing the capsular ligament of the joint.

The femoral artery was now secured above the branching off of the circumflex and profunda. The capsule and round ligament were next divided, the acetabulum exposed, and the head of bone drawn out. The amputating knife was again taken, and, observing the particular shape of the upper incision, a corresponding flap was formed, by a double stroke of the knife, from the inner

and under part of the thigh, in which the fractured portions of the bone, and the contused and lacerated soft parts were included. The arteries were now secured, and the wound cleared of blood. Notwithstanding frequent ablutions of the wound with cold water, there existed a troublesome oozing of blood, without our being able to detect its sources, by which, and the fatigue of the operation, the patient became exhausted. Wine and assuring language restored him somewhat. It was evidently dangerous to dress the wound immediately; and leaving, therefore, its surface uncovered, exposed to the air, (a method frequently had recourse to in other similar cases,) we proceeded to another amputation. By this management the wound became so dry, after a few minutes, as to allow the operation to be satisfactorily finished. The flap covered very well the face of the wound, and was easily retained in proper contact by strips of adhesive plaster. The common dressings were applied, and a double-headed roller was carefully adapted to the peculiar form of the hip. An anodyne was exhibited, and six hours after the operation he was composed, and had slept; no pain nor bleeding from the wound.

The irregular movements of the army and navy, in consequence of the melancholy event of this battle, forced Dr. B's attendance elsewhere, and prevented him seeing the patient before the fourth day of the operation, when he found him conveyed to Poros, truly well, considering the many privations and hardships the poor fellow had undergone during the preceding days. The edges of the wound, though irritated, showed no disposition to separate, nor was the flap tense or swollen. The general system suffered from febrile feelings, anxiety, and restlessness, but the disturbance was not greater than the irregular and neglected state of his bowels, and the irritation in the stump could account for. Upon the whole, Dr. B. was agreeably disappointed in his expectations of his condition; and entertained sanguine hopes of his recovery, more especially that some arrangement had been made to ensure professional attendance on the wounded. During two days Dr. B. was at Poros, the patient recovered from every untoward symptom, and the wound was dressed and looked well. When Dr. B. returned to this place, after six weeks, he was delighted to see his patient completely cured and healthy.

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63. *Lithotrity.*—M. Segalas has communicated to the Royal Academy of Medicine, the case of a man, forty-five years of age, who, for the relief of dyspepsia, caused by mental and physical fatigue, was restricted to a vegetable diet, consisting in great part of sorrel. Two paroxysms of violent nephritic colic soon supervened, and frequent hematuria. A urinary calculus was detected by the lithontriptor, and it was removed at a single operation. Chemical examination showed it to consist of oxalate of lime. M. Segalas offers two remarks in relation to this case: 1st, that the calculus, which could not be detected in two examinations with the sound, was afterwards detected with the lithontriptor; 2d, that lithotrity has here cured a patient in a single sitting, who was too nervous to submit to lithotomy.—*Archives Générales, May,* 1831.

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64. *Lacerated wound of the Perinæum, with fracture of the bones of the Pelvis—Recovery.*—The following case related by George C. Rankin, Esq. in a recent number of the *London Medical Gazette,* affords an interesting example of the powers of nature. A farmer of Upper Canada was crossing a narrow dam, "when meeting a loaded cart he unfortunately locked his wheel, and in backing to extricate himself lost his balance and fell out of the cart over the dam; the horse continuing to back went over also, with the cart, and was killed on the spot. The dam was about 30 feet high, and the cart fell over the man. The first sight showed a part of the sphincter ani, the whole perinæum and scrotum, torn away, in the form of a triangle, the apex of which was at the anus, and lying over the penis on the abdomen, leaving the testes perfectly denuded, and suspended like two eggs. How, under such circumstances, they escaped entire destruction, I cannot conceive. On a nearer inspection, I found the subja-

cent soft parts in a dreadful state of laceration, a part of the ramus of the ischium gone, and the ischium itself fractured between its tuberosity and the acetabulum; the left crus of the penis and urethra divided; and, on passing my fingers under the testes, removed several portions of the os pubis, which were apparently chipped off as if by some sharp instrument, and which, as well as a large portion of the ramus, I have preserved. In addition to the above, the right arm was so completely shattered, that I was under the necessity of amputating it some days after, not with any hope of ultimate recovery, but merely to relieve the patient from the pain which the splintered bones occasioned.

"Looking upon this as a desperate case, I merely replaced the parts *in situ*, ordered poultices to be constantly applied, and the patient to be kept as quiet as possible. In this state he continued, labouring under the greatest excitement, until the 26th, about the tenth day after the accident, when I perceived that the injured soft parts had entirely sloughed off, the stump still continuing a good deal swollen. On the 28th, that state of collapse consequent on too great excitement, and which I had looked forward to as the event which was to put an end to his sufferings, was strikingly depicted on his cadaverous countenance; the stump was flaccid, and the wounds put on a languid appearance. I ordered wine to be given freely, and had the unexpected pleasure of seeing him something better on the 30th, and complaining of the pain occasioned by the pointed bones. Removed such parts of the ramus as I could get at with the bone-nippers, and succeeded in extracting two or three small splinters of the pubes, which had caused much irritation. From this time he appeared evidently to improve; the stump, as well as the wound, soon began to show a secretion of healthy pus. At the end of a month from the amputation the stump was quite healed, and in another fortnight the injured bones of the pelvis had completely exfoliated, and healthy granulations were fast filling up the frightful void which had been made in the soft parts; and in the beginning of March (1830,) instead of my visiting him as formerly, he came to me as long as the snow lasted, in a sledge; his long confinement in the recumbent posture, having afforded ample time for the tuberosity of the ischium to reünite to the body of the bone, so that he could very soon sit up without much inconvenience.

"The only thing further to be done for him was to endeavour to reëstablish the natural passage for the urine, instead of allowing it to continue to pass by the perinæum. This I attempted, and though unsuccessful, am still perfectly convinced of its practicability. After introducing the catheter, and irritating the edges of the wound, adhesive plaster was applied, and I feel confident would, in forty-eight hours, have secured a union by the first intention, had it been allowed to remain; but, to my great disappointment, I found next day that the catheter had been removed by some officious friend, and I could not prevail on him again to permit its introduction. I would not be surprised, however, to hear that nature had ere this done for him what he would not permit to be done by art; for when I last saw him, in August, 1830, he informed me that when he opposed any obstacle, as the end of his finger, to the passage of the water by the perinæum, it readily passed through the urethra.

"During the whole course of this case, the only prescriptions used were pectoral mixtures, to relieve a very troublesome and irritating cough, and an occasional aperient; and after the discontinuance of the poultices, the cerat. calamin. with lotions of sulph. zin. and an occasional touch of nit. argent, to keep down luxuriant granulations, were the only local applications found necessary.

"Of all the cases which fall into the hands of the practitioner in surgery for treatment, there are perhaps none from which he may obtain more credit to himself, in great measure at the expense of nature, than in extensive lacerated wounds; the alarm which any loss of substance invariably excites amongst the ignorant in surgery naturally inclining the patient to bestow all the credit upon his attendant, which the surgeon himself is content, in his own mind, to divide with nature.

"I am not aware of there being any case on record, accompanied with so many discouraging circumstances as the above, in which the patient has recovered; and the only object in view in preserving it, (as such cases are fortunately of rare occurrence,) is to afford another proof of the almost entire dependence to be placed, under such circumstances, in the *vis medicatrix naturæ.*"

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65. *Traumatic Tetanus.*—The following cases of tetanus reported in the *Glasgow Medical Journal* for February last, by Robert Perry, M. D. senior surgeon to the Glasgow Royal Infirmary are interesting from some of the appearances noticed on dissection.

Case I. Patrick Vallily, ætat. 15. 17th April, 1830. A few hours ago, while sitting near the funnel of a steam-boat engine, the boiler exploded, and he was lifted into the air. Both legs and posterior part of left thigh are extensively vesicated, both arms and shoulders slightly so, occasioned by the hot water thrown on him. Pulse quick and feeble, has had no vomiting. Sumat. stat. tinct. opii. gtt. xl.

18th, Occasional vomiting; in other respects easy. Hab. opii. gr. i. vesp.

19th, Seems confused, but no return of vomiting; complains only of pains of abdomen, which is slightly tender on pressure. Tongue white and moist; pulse 100; bowels open. Cont. opii. gr. i. vesp. Adhibeant. abdomeni, hirud, xii.

20th, A rigor this morning; half an hour after was bled to 9 oz. Blood first cup buffy. Complains of slight pain of abdomen on motion, but there is no tenderness on pressure. Pulse 100; tongue white; thirst; bowels slow. Rep. infus. sennæ c. sulph. magnes.; Vesp. rep. venesect.

21st, Bled to six ounces. Pulse 120; tongue less white; bowels open. Feels much easier.

26th, Since last bleeding has continued much easier. Pulse has fallen in frequency, and tongue cleaning.

29th, Convalescent till 27th, when complained of pain in abdomen; not increased on pressure; had an opiate, which was repeated last night; to-day was found lying on his back, head retracted, and muscles of the head and trunk rigid; countenance anxious, and features retracted. Slight difficulty on deglutition, but can open his mouth pretty freely. Pulse 105; tongue whitish at edges, brownish and dry in centre. Sum. st. calom. ℈i. et post hor. tres infus. sennæ donec plen. dejec. alv.; Post. sol. alvi hab. enem. c. tinct. opii. ʒi.; Spin. applic. vesicat.

30th, Physic operated well, and in the evening less permanent rigidity of the muscles, but the accumulation of phlegm in trachea most annoying. Spasms increase in frequency. Complains of pain in the region of the heart. Pulse 124; tongue brown and dry in centre. Sum. 3tia q. q. h. calom. gr. x. c. opii gr. iss.; Curet. pars vesicat. ungt. sabinæ.

May 1st, It was at this date the patient came under my care. Since last report the spasms of the muscles of the trunk have become more severe and permanent; less able to open his mouth, severe pain at epigastrium, no stool for the last 24 hours, has continued the calomel. To have powdered opium sprinkled on the vesicated portions of legs.

2d, Thirst urgent. Tongue dry; pulse 110. ℞. Ol. croton. gtt. iii. pulv. sacc. gr. vi. M. et divid. in d. iii Sum 1 3tia q. q. h. Applic. catap. com. vesicationibus. Omit. p. opii.

3d, Has had several dark stools from the croton oil; tension, and pain of abdomen, diminished, but spams still continue. Pulse in the morning feeble, but become stronger since taking a little wine. 4 P. M. Pulse sunk considerably; in consequence of which, 4 oz. of spirit were ordered to be taken in divided doses with warm water and sugar. Spasms continued till 5 next morning, when he died. The body was immediately placed with the face to the floor.

Inspection 24 hours after death. The whole spinous processes and calvarium were removed, the brain and thecæ vertebrarum fully exposed. There was a little serous fluid at the base of the brain, betwixt the tunica arachnoidea and

pia mater. The brain was considerably more vascular than usual, and on the posterior part of both lobes of the cerebellum there existed an ecchymosed appearance, which could easily be removed by raising the pia mater. The medulla spinalis had a perfectly healthy appearance, but a considerable quantity of partly fluid, partly coagulated blood, existed betwixt the theca and the vertebræ. The vesicated surfaces occupied the lower half of the left leg, and the outer and lower half of the right leg. Both had a green sloughy aspect, and the cellular substances was much inflamed. The veins did not appear more vascular than natural, and the arteries appeared healthy. The nerves were also carefully examined; the cutaneous of both legs, particularly the communicans tibialis and the communicating branches of the peroneal nerve with the tibialis communis, were inflamed at the seat of the injury; tracing them upwards above this point they were perfectly healthy, except that portion of the peroneal which turns over the head of the fibula, there it was again distinctly very vascular, thus leaving an intermediate portion perfectly free from the appearances of inflammation. The vascularity appeared to be confined to the sheath of each nerve; the deep-seated branches appeared to be quite natural. No other morbid appearances were detected.

Case II. William Fleming, ætat. 17. 22d July, 1830. Eight days ago, the ring and middle fingers of the right hand were drawn in betwixt two teethed wheels, and the integuments much lacerated; the last phalanx of the middle finger was completely crushed, and separated from the second, except at its fore parts, where a small slip of skin kept it adherent; this was removed shortly after the accident, and the fingers dressed at first with adhesive straps, the day before admission had poultices applied. Last night began to experience severe pain in fingers, which, before yesterday, had been tolerably easy; at the same time, was seized with tetanic symptoms, of stiffness of the muscles of the neck and lower jaw, and pain at epigastrium.

On admission to-day, at 2 P. M. the symptoms above related, somewhat aggravated, but did not prevent him walking up to the hospital; there is at present slight rigidity of the sterno-mastoid muscles, deglutition easy. The second and last phalanges of the injured fingers are completely gangrenous, and the integuments separated from the first, exposing the bone, of a black colour. Has severe pain in bruised fingers, very much increased on the slightest pressure; pain does not stretch up arm. The bones of the second phalanx of both fingers are fractured; the fore and little fingers are uninjured. Bowels are easy. Had 12 grains of calomel immediately on admission, and 14 leeches applied to the nape of the neck, and at 6 P. M. both bruised fingers were removed. The middle finger was taken off at its junction with the metacarpal bone, and the two last phalanges of the ring finger. Torsion of the arteries was used in place of ligatures, to stop the hæmorrhage, (a practice I have always adopted in amputations of the fingers and toes) during the operation, of which he complained much; had distinct opisthotonos. The calomel not having operated, was ordered sulph. magnes. ℥ii. tart. ant. ¼ gr., o. h.

23d, The salts and tartar emetic were continued every hour during the night. Bowels have been freely opened; vomited occasionally. Muscles of the back and belly have become rigid, and at times distinct opisthotonos occurs; is unable to open his jaws so far as to put out his tongue, the attempt to do so generally brings on general spasms. Complains much of pain of right breast. Pulse 140, full and soft; skin moist; slight head-ache; makes water freely; has some difficulty in swallowing. *Cont. tart. antimon. gr. ¼ tantum. o. h. Omitt. sulph. magnes. Hab. acetat. morph. gr. ½ o. h.; Fricet. pect., c. tinct. opii. et sap., et colli nuch. app. vesicat.*

10 P. M. Spasms less frequent, but more severe; can open mouth better; has had no stool since visit at 1 P. M.; has taken regularly the quantity of morphia and tartar emetic prescribed; feels drowsy, and has vomited a little. Pulse 160, full, and rather hard; water has been drawn off by catheter. Repet. sulph. magnes. et tart. antimon. ut antea.

24th, Died this morning at 7, the spasms continuing both frequent and severe.

Inspection, 24 hours after death. The body was allowed to lie the usual way on the back till the time of inspection. The calvarium and spinous ridges were removed, fully exposing the theca vertebrarum, down to the cauda equina; there was no effusion on the brain or its membranes, and its substance was natural throughout. No effusion existed between the theca and the vertebræ; the theca was healthy, and betwixt it and the spinal cord was a preternatural quantity of serum. The cord itself was of a pale colour. The nerves on each side of the remaining phalanx of the ring finger were very vascular. On tracing upwards the ulnar nerve from this point to the elbow, it was of its natural colour, but here again it became very vascular for about the extent of 2 inches. In the axilla it again presented a similar appearance as at the elbow, the portion of it intervening betwixt these two points being healthy. Tracing the median nerve in the same way as the ulnar, it was found perfectly natural, from its digital branch, which supplied the radial side of the ring finger, (and which, as stated above, was much inflamed,) till about the middle of the arm, when it again presented an inflamed appearance for the extent of 1½ inch. The portion of it intervening betwixt this part and that confined to the axilla, where it again became vascular, was natural. This vascularity throughout, was not confined to the sheaths of the nerves, but occupied their substance; the radial and superficial nerves of the arm, along with its veins and arteries, were perfectly natural; the lumbar nerves were unaffected; the œsophagus was examined, and found healthy; the trachea appeared inflamed, and contained a large quantity of greenish coloured mucus; the other thoracic viscera and digestive organs natural.

The plan of treatment followed in the above cases may be considered as purely empirical, indeed, the treatment of this disease may be said to have been hitherto uniformly so, and must continue so while the seat and nature of the disease is unknown, as remarked by Mr. Cooper, in his excellent Surgical Dictionary,—"Nothing is a more certain proof of our not being acquainted with any very effectual method of treating a disease, than a multiplicity of remedies, which are as opposite as possible in their effects." To give even a summary of the remedies employed, and the plans of treatment strongly recommended, would occupy too large a space, and be of little use, from all of them being founded upon conjecture. Although the morbid appearances in the two inspections related correspond very closely, it would perhaps be rash to found upon them (until confirmed by other cases) any certain plan of treatment; yet, I think I would be warranted in treating any case of the kind which might occur, as a local inflammation of the nerves leading from the seat of the injury, the interruption of the suppurative process in the wound being one of the first appearances. When the tetanic symptoms arise from fracture of any of the fingers or toes, or even compound or comminuted fracture of the larger extremities, we might be warranted in having recourse to amputation; at all events, a strict antiphlogistic treatment, with the application of numerous leeches in the course of the affected nerves, followed by blisters, ought not to be neglected; warm poultices, stimulating fomentations, or the turpentine liniment, ought to be applied to the wound, and these local remedies, accompanied with the free exhibition of emetic tartar, either combined with sulph. magnesiæ dissolved in water, or with calomel and opium in small but repeated doses, so as to act both on the skin and bowels—the torpid state of the latter in this disease, indicate an interruption or weakened state of the nervous system, which may arise from the increased expenditure or exhaustion of nervous power by the diseased parts.

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66. *Wound of the Trachea—Occlusion of the Larynx—Aerial Fistula.*—M. Renaud has recorded in a late number of the *Journal Hebdomadaire*, a case of this description. The subject of it was a man named Leblanc, twenty-five years of age, who was compelled to fly his home in consequence of a criminal offence, and seclude himself in another part of France. Three years afterwards, observing some gens-d'armes approaching him, and suspecting that

they were in pursuit of him, he resolved upon suicide. Seizing upon a bistoury, he always carried about him, he plunged it into that part of his throat corresponding with the space between the cricoid cartilage and trachea. The point of the instrument being directed upwards, it entered the larynx, and made its way out again, being directed from one side to the other. A profuse hæmorrhage ensued; and his answers to the gens-d'armes were not intelligible. They conveyed him to the nearest village, where he was unable to procure professional assistance for several hours. It was found necessary to introduce fluids into the stomach, for the purpose of alimentation, by means of a tube, and in twenty days the patient began to have some power of articulation. But in proportion as the external wound healed, the difficulty of breathing increased; and in six weeks after the accident, the unhappy Leblanc, fearing the officers of justice, contrived to make his escape to a distant part of the country, where he took refuge with his brother. Then the terrible difficulty of breathing suggested to Leblanc the idea of reöpening the original wound, in hopes of either putting an end to his life or his sufferings. With this intention he took an opportunity of pushing a knife through the cicatrix, and thus giving a free vent to the respiration. In this auto-operation, Leblanc made an opening into the pharynx, but of small extent. His brother arriving in an hour, was terrified, and applied to the magistrate of the place, who procured a physician to examine into the state of the patient. He was conducted to the Hôtel Dieu of Rheims, where an attempt was made to reünite the wound; but the difficulty of breathing which ensued, caused them to abandon the attempt. The event was left to nature, and in a fortnight the wound of the pharynx was healed. In proportion as the laryngeal wound healed, however, the dyspnœa increased, as on the former occasion; and to prevent suffocation, the patient himself constructed a tube of lead, two inches in length, and more than an inch in circumference, which he introduced, with some difficulty, but which gave him complete facility of breathing. He was obliged, of course, from time to time, to remove the tube, in order to clean it, and give issue to accumulated mucosities. In two months, he was completely well, with the exception of the inconvenience of the tube. And now the unhappy man was brought before a tribunal of justice, and was condemned to death. The severity of the sentence was, however, mitigated into perpetual labour. He was sent to work at a public construction in Toulon, where he arrived on the 11th of September, 1822. There he worked till the month of August, 1825, when the leaden tube slipped into the trachea, and became impacted at the origin of the right bronchus. There it excited constant and violent fits of coughing. He was sent to the hospital, and the instrument was extracted by a surgical operation, no details of which are given. During the patient's stay in the hospital, M. Renaud ascertained the complete occlusion of the larynx, by various experiments; and yet the patient was able to articulate many words with very considerable distinctness. Many of the most distinguished medical men of Toulon corroborated these facts. They all became convinced that the articulation of sounds in Leblanc's case, was made in despite of the entire occlusion of the larynx. This man could speak so distinctly, as to be heard and understood at some distance. There were certain words and letters, however, which he could not pronounce, as, for example, the letters a, c, l, and especially o. When he attempted to speak, he opened his mouth wide, depressed the larynx, and then, by a violent effort, expelled what air he could, as if by the act of coughing. Leblanc became the subject of repeated attacks of bronchitis, which ended in phthisis, of which he died on the 28th of July, 1828.

The dissection was made in the presence of the Council of Health, and various officers of the hospital. The complete occlusion was satisfactorily proved, the obliteration of the passage being where the trachea joins the larynx. The problem remains to be solved how Leblanc could speak, under such circumstances. Our readers may remember the case of Mr. Price, of Portsmouth, who still breathes through a tube in the trachea. In his case there is a small

aperture still for air, though not sufficient for respiration. His voice is almost extinct.—*Med. Chir. Rev. July*, 1831.

67. *Case of severe Scald treated by Nitrate of Silver.*—"The following case of severe scald, by an anonymous correspondent, demonstrates the utility of the nitrate of silver in this kind of affection, while it exemplifies its powers in changing and controlling the action of the capillary vessels.

"A little child, five years old, was pushed backwards by another child, whilst naked, into a large pan of scalding water which had been just taken off the fire. It was taken out as quick as possible, and yeast was applied upon the injured parts. It was visited one hour after the accident. The whole of the back as high as the shoulder-blades, and as low as the middle of the thighs, was found severely scalded, the cuticle removed from some parts, and in other parts raised into large vesications. The whole of the belly, the penis, scrotum, and thighs, were also in a similar state, but not so severely scalded as the back. An opiate was administered, and the yeast was removed with a sponge and warm water; it was well that no oily application had been used, as its removal would have required more trouble and have given more pain. The loose cuticle was removed with that of all the larger vesications, and the small ones were punctured, so that a clear surface was obtained, to which the nitrate of silver might be applied.

"The whole surface was then moistened with pure water, and a long stick of the nitrate of silver was applied flat, once over the whole surface, and a little on the surrounding healthy skin. A little linen just moistened was then past over every part to diffuse the nitrate of silver, so that no spot might be left untouched. The child cried much less than was expected when the nitrate of silver was applied on the denuded cutis. The back on which the child would have to lie was then covered with neutral ointment spread upon linen, secured by a bandage. The thighs and belly were left exposed to the air to form an adherent eschar, being defended by a fracture cradle.

"On visiting the child about eight hours afterwards, it was reported to have fallen asleep in a quarter of an hour after the application of the nitrate of silver, and to have complained of no pain since. There appeared no constitutional disturbance.

"The very first morning after the accident this little patient was turned on his side enjoying some playthings with several playfellows who were by the side of his bed. One part on the side of the thigh was much swollen and inflamed. It was discovered that the nitrate of silver had not been applied upon it. The whole of the belly and the other parts of the thighs exposed to the air looked very well, with scarcely any vesications; the eschars were removed in two places where the tapes of the bandage had crossed the belly; these parts were now defended by means of a small plaster of neutral ointment spread on linen. On some parts the eschars were floating on the serum, these afterwards became adherent. The scrotum and penis were much swollen, but gave no pain. The nitrate of silver was applied on the part not attended to at the first dressing.

"On the second day the child was going on well; some of the eschars were becoming adherent; the scrotum and penis continued much swollen, but there was scarcely any pain, and that on the belly. There was a slight heat of skin, and tongue was a little loaded. A purgative with senna and salts was given.

"On the third day nearly the whole of the eschars were found to be adherent, and the scrotum and penis less swelled.

"On the fourth day the eschars were quite adherent on the belly, and the penis and scrotum were of their natural size.

"On the fifth day the plasters of neutral ointment were removed from the back, which presented an appearance of a recently blistered surface, in a healing state, with some loose cuticle partially attached; there was no appearance of suppuration.

"In several days more the back was healed, except in two or three small parts, which were scalded more deeply than the rest, and were covered over with coagulable lymph, nor the least suppuration having taken place. The eschars were peeling off the belly, leaving the subjacent surface quite healed.

"On the tenth day this little patient was out of doors, and on the twelfth at school, every part being quite healed.

"Mr. Higginbottom, in his Essay on the use of the Nitrate of Silver, makes the following observations on burns and scalds:

"'I have found that, by slightly passing the nitrate of silver once over a burnt surface, the pain is increased for a short time, but then totally subsides, vesication appearing to be prevented; the black cuticle peels off in a few days, leaving the part well. In cases in which the cuticle has been removed, the nitrate of silver applied on the surface induces an adherent eschar, and prevents the consequent ulceration.' p. 149.

"'I have not had an opportunity of using the nitrate of silver in very extensive recent burns, but I can have no doubt of the benefit that would accrue from it. It should, I think, be applied over the whole surface of the burn or scald once only but as in external inflammation; then the parts most severely burnt should be covered with lint, and the whole of the burnt surface with the neutral ointment spread on linen, a bandage being applied to retain the dressings in their places. I should expect that the inflammation would be checked, and the consequent vesication, ulceration, and sloughing, in a great measure prevented, except in those places where the fire had actually destroyed the parts deeply. I should not examine the parts again before the fourth or fifth day; and if the dressing adhered I would let them remain during another similar period. The application of the nitrate of silver should be repeated in the same manner, as might appear to be required. I think the burn would then be limited in its extent, and would consequently be less dangerous; for the danger is generally in proportion to the extent of surface destroyed. The nitrate of silver has certainly the property of removing the irritability of the whole surface to which it is applied, and cannot add much to the pain of the burn itself.' p. 150.

"These anticipations appear to be correct when the nitrate of silver is applied to a burnt or scalded surface from which the cuticle is not removed. It has the immediate effect of subduing the heat or burning pain, preventing vesication, and causing it to terminate by resolution.

"When the skin is denuded of the cuticle and the nitrate of silver is applied, this most irritable and inflamed surface is converted into an insensible covering, which remains adherent until the inflammation is gone, and the new cuticle is formed underneath, at which period it loosens and drops off.

"The application of the nitrate of silver is equally efficacious whether the burned or scalded surface be afterwards exposed to the air or covered by the neutral ointment. In the first case an adherent eschar is formed in two or three days; and in the second the effects of the nitrate of silver appear to continue for four or five days, producing a constant flow of serum, which continues until all the inflammation, irritation, and pain, are gone. It is possibly of little consequence which plan is adopted, as both are healed about the same period. The adherent eschar would be preferable in parts exposed, as the face and neck; or the chest, belly, or legs too, if defended by a fracture cradle, and the patient in bed.

"The advantages of the nitrate of silver in the treatment of burns and scalds appear to be of the very first importance. We have at once a covering for the injured and very irritable surface superior to any other formed and composed partly of the very surface itself. The nitrate of silver acts as an *anti-inflammatory* agency both immediately and for several days after its application.

It may be safely applied over the head, chest, or abdomen, and it is not, like arsenic, and some other remedies used externally, liable to be absorbed into the system."—*Edinburgh Medical and Surgical Journal, April*, 1831.

68. *Treatment of Syphilis without Mercury.*—Dr. Traill, of Liverpool, in an interesting account of the general hospital at Hamburg in the *North of England Medical and Surgical Journal*, for June last, furnishes us with the following observations on the treatment of syphilis in Hamburg. "In so great a seaport, in so luxurious a city, it may readily be supposed that syphilis is not a rare disease; and from the constant influx of persons from every quarter of the globe, one might be led to conclude that the disorder, in its most disgusting forms, might be found in the hospital of Hamburg. In this, however, we should be mistaken. I had the satisfaction of accompanying Dr. Jacobson, of Copenhagen; Dr. Eckström, of Stockholm; and other eminent physicians, to the hospital, where Dr. Fricke had the kindness to submit to examination a great number of syphilitic cases, and to detail the history of each, as he pointed out the various stages of the complaint.

"The public prostitutes, on the first symptoms of this disease, are compelled to enter this hospital; and we had full leisure and opportunity to examine the various forms of the disorder to which they are liable.

"The mode of inspection is very minute, and is regularly practised, in all cases, by the medical officers, with a patience and manliness to which there is among us no parallel. Every change of symptoms perceived by Dr. Fricke is announced, and immediately entered in the case book by one of the assistant surgeons. Among thirty or forty females of that class, then minutely inspected, I did not discover a single instance of deep chancre with retorted edges. The chief symptoms were slight ulcerations, often little else than excoriations, *condylomata* or warty excrescences; and in incipient cases, specks of purulent matter filling the orifices of the mucous follicles or glands on the parts within the *labiæ*, and which were often so minute as to require a magnifier to render them apparent. In this insidious form of the disease, as Dr. Fricke remarked, the several symptoms of syphilis may be communicated by a female, without her being at all aware that she is diseased. Such instances he stated as having often fallen under his observation. He pointed out many examples of this affection of the mucous follicles within the *labiæ;* and, with a fine silver wire, demonstrated the existence of minute collections of matter in them, and, by slight inflammatory action, for a time closing their orifices. Among all the prostitutes here collected, I did not perceive a single case of ill-conditioned chancre, or of corroding ulceration; and even simple buboes were not very numerous.* Of secondary syphilis, with the exception of a few cases of cutaneous eruptions, and ulcerated throats, chiefly among seamen, there were fewer traces than I ever saw among so many patients labouring under this disease. *Blenorrhœa impura* and *leucorrhœa* are very frequent, especially among the prostitutes.

"Every form of syphilis is treated in the Hamburg hospital WITHOUT MERCURY IN ANY FORM: and I have the authority of Dr. Fricke, and of all the other medical gentlemen of the establishment, for the important fact, that they never find the disease to require its use, and that this mode of treatment is not more liable than the mercurial one to be followed by what are considered as secondary symptoms.

"I did not find a single instance of any person disfigured by the disease; except one female, whose nose had fallen in *before* she was received in the house; and she had previously undergone a severe course of mercury in Berlin. Since her admission here, she has been treated on the anti-mercurial plan; and when I saw her, she appeared to be convalescent. This method of cure consists in frequent ablutions with tepid water, a very rigid low diet, almost amounting to starving, brisk purgatives and rest. Zinc and saturnine lotions are occasionally employed, but the circumstances above enumerated are the great means of cure. Even sarsaparilla is little used, and mercurials never. The success of this

* The ill-conditioned chancre with ragged retorted edges might indeed be found among sailors received into the hospital; but the remarkable exemption of the public prostitutes from the severer forms of the disease is not a little worthy of attention.

practice is established by the experience acquired in the present hospital and its predecessor, at least as far back as fifteen years ago.

"Dr. Eckström, physician to the king of Sweden, informed me that the same treatment had been still longer pursued at Stockholm with equal success; and that the practice was adopted at Hamburg from the example of the Swedish hospital; which however borrowed it from the Royal Hospital at Copenhagen, where it had been established by the experience of a Danish physician, a pupil of our celebrated John Hunter.

"After the demonstrations were concluded, Dr. Fricke asked my opinion on the nature and treatment of the diseases he had shown. On remarking that few of the cases among the prostitutes appeared to have what we considered decided marks of virulent syphilis; and that many of them would be considered little more than excoriations, or the consequences of gonorrhœa; he justly remarked, 'Whatever opinion might be entertained on that subject, it was no less remarkable, if we refuse to give the name of syphilis to these diseases, that, among the class of persons most exposed to venereal infection, the public prostitutes, in one of the largest seaports of Europe, proverbially dissipated, true syphilis is unknown: for we had seen every variety of the disease which is usually met with in Hamburg.'

"He further added that the anti-mercurial mode of treatment had *never*, to his knowledge, been followed by diseased bones, unless where much mercury had been previously used; and the remark was confirmed by Dr. Eckström."

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69. *Case of Spontaneous Varicose Aneurism.*—By James Syme, Esq. F. R. C. S. L. and E.—Varicose aneurism, or a sac containing blood, and communicating with the trunks of both an artery and vein, is a rare occurrence; and the only instances which have hitherto been recorded either of it, or the analogous condition of aneurismal varix, where the blood passes at once from the trunk of an artery into that of a vein, originated from wounds. The femoral, popliteal, and subclavian vessels, and more frequently those at the bend of the arm, have been thus affected, in consequence of having their contiguous coats divided by some sharp-pointed weapon; but no instance has hitherto been observed of the opening taking place spontaneously, and I therefore think it right to relate the following case of varicose aneurism, which affected the aorta and vena cava, and occurred without any external violence.

Robert Scott, aged twenty-two, in the beginning of October, 1830, began to complain of pain in his back and limbs, throbbing in the epigastric region, and an incessant whizzing noise, which seemed to proceed from the same part. His sufferings became so severe in three or four weeks, that he found it necessary to confine himself to bed, and then came under the care of my friend Dr. Robertson, who soon afterwards requested me to see him. He complained greatly of pain in his back, and coldness of his feet; but what seemed to occasion both him and his friends most concern, was the constant noise that has been already mentioned. On examining the abdomen while he lay on his back, I readily felt the pulsation of a large tumour; but it was not so strong and incompressible as that of an ordinary aneurism, and in the erect posture might have readily escaped observation.

The treatment consisted in the use of all those means which tend to moderate the force of the circulation, but proved quite unavailing. The patient's sufferings became progressively aggravated, and a new symptom made its appearance, viz. œdema of the inferior extremities and generative organs. The swelling of these parts attained a degree that I never saw equalled, and occasioned an extraordinary contrast between them and his superior extremities, which were thin and emaciated. In the latter end of January the patient died rather suddenly, immediately after complaining of a pain at his heart.

After death, the œdema, which had previously been confined to the parts below the pubis, diffused itself over the whole of the body, so that when the dissection was commenced by the usual longitudinal incision of the integuments

of the trunk, they were found to be distended fully three inches, and a copious stream of serous fluid continued to issue from them, during nearly the whole of the subsequent examination.

In order to expose the disease completely, I removed the thoracic and abdominal viscera, and then traced the aorta from the commencement downwards. Having found an aneurismal tumour seated at the bifurcation of the artery, which adhered intimately to the vena cava and vertebræ, I dissected out the iliac vessels, cut them across some inches beyond their division, and then sawed away the bodies of the lumbar vertebræ, together with the promontory of the sacrum.

On examining more particularly the preparation thus detached, we observed that the tumour was of a flattened oval figure about the size of a large orange; that it adhered to, and had caused absorption to some depth of the bodies of the three lowest lumbar vertebræ, and that it was intimately connected with the vena cava, which appeared much flattened, distended, and thickened. It was now suggested that there might be a communication between the aneurism and vein, and on making a small opening into the sac, so as to evacuate its contents, we found this actually to be the case. Immediately above the bifurcation of the vena cava there was a round aperture somewhat larger than a sixpence, which afforded a free entrance into it from the aneurism.—*Ed. Med. and Surg. Journal, July*, 1831.

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70. *Lithotrity.*—We have already announced, Vol. VII. p. 246, that the general administration of hospitals had given to M. Civiale the charge of a ward in the Hospital Neckar, for the treatment of calculous patients by lithotrity, and we have also given an abstract of the report of M. Civiale of the cases treated by him during the first year. This memoir was referred by the Academy of Sciences to a committee, and on the 26th of April last, M. Larrey, on behalf of that committee, reported, that without suspecting the accuracy of the statements made by M. Civiale, he thought it his duty to apply to the council of administration of hospitals to ascertain the number of patients sent to M. Civiale's ward, and the result of the treatment, and M. L. says that M. Civiale is mistaken as to the number of patients received into his ward. This number M. L. states to have been twenty-six, instead of sixteen as reported by M. C. M. Larrey further states that twenty-four of these patients were operated on, and that eleven have died. Several of these had undergone lithotrity. M. L. blames M. C. for presenting to the academy only the more prominent points in his practice, and he states that the number of patients who have died after submitting to lithotrity, is proportionally as great as those who die from the operation of lithotomy in the other hospitals of the capital. M. Larrey terminates his report with some compliments to M. Civiale for the zeal which he continues to display in the improvement of lithotrity, and he calls the attention of practitioners to the comparative results of lithotrity and lithotomy.

At the next meeting of the Academy, a letter was read from M. Civiale, in which this surgeon charges M. Larrey with having made several mistakes in his report. M. C. states, that he had received during the period stated in his report, but nineteen patients, of whom fourteen only had calculi; to this number two must be added, included in M. C.'s report, and who were operated upon in private practice. Four of the patients received had no calculus; four of those who had a calculus were not operated on; two who had submitted to the preliminary trials could not support the treatment. Thus the number operated on was eleven, and not twenty-four, as said by M. Larrey. The error of the latter arose, according to M. C., 1st, from his having included in the period of his report four months more than was included in that of M. Civiale; 2d, from his having considered all the patients as calculous; 3d, from his supposing all the calculous patients to have been operated on. M. Civiale avers that several patients whose deaths are attributed by M. Larrey to lithotrity,

have never been operated on; others whose condition is said to have been exasperated by attempts at the operation have never been subjected to these trials; and finally, that a patient said to have died in consequence of cystotomy, did not undergo this operation.

In answer to this, M. Larrey referred to the documents joined to his report, and which were deposited with the secretary of the Academy.

MIDWIFERY.

71. *Cæsarean Operation.*—In the *Archives Générales*, for February last, we find an extract from the thesis of M. Jolly, a Parisian graduate, in which the author gives an account of the remarkable success of his father, a surgeon of Château-Thierry, in the performance of the Cæsarean operation. He has operated six times, five of his patients being country-women, and the sixth an inhabitant of the town. In all the labour had lasted at least forty-eight hours before the operation was performed; and the waters had been discharged. In one patient only of the six no fatiguing attempts had been made by midwives or accoucheurs to finish the labour. He always made the incision on the linea alba, between the navel and pubes, and divided the uterus in the same direction, taking care to restore it first to the perpendicular position if it was inclined. There was never any material hæmorrhage; no patient, indeed, lost more than two ounces of blood. In dressing the wound he always had recourse to the gastroraphy, which, instead of producing the ill consequences usually ascribed to it, appeared to him always to contribute greatly to the cicatrization of the wound. In two of the six cases no untoward symptom whatever followed the operation, and the cure was perfected before a month expired; in two others a smart degree of inflammation of the abdomen supervened, but was successfully combated by venesection, baths, and fomentations; and the remaining two died evidently of metroperitonitis, one on the fourth day, the other at a later period, when there appeared every chance of her recovering under the antiphlogistic treatment. Of the six infants four were born alive and survived; but two were dead after the operation was concluded, although they were thought to have been alive before it was performed. In no instance did hernia ensue; but there was always some prominence of the abdomen at the cicatrix, which had diminished from six inches in length to three only. These results are much more favourable to the operation than any previously published.

72. *Obliteration of the Vagina.*—M. Lombard, of Geneva, communicated to the Royal Academy of Medicine, at their sitting of the 15th of March last, the case of a female, the mother of four children, and who when pregnant for the fifth time, injected into her vagina, for the purpose of exciting abortion, some sulphuric acid, which produced inflammation, and the obliteration of the superior two-thirds of this organ. The woman, nevertheless, went her full time, and after thirty-six hours labour, an unsuccessful attempt was made to open the passage with the knife. The patient died. The Cæsarean section was then performed, and a dead infant found. The uterus was ruptured at its middle on the left side, and to the extent of four or five inches.—*Revue Médicale, April*, 1831.

MEDICAL JURISPRUDENCE AND MEDICAL POLICE.

73. *On the Grinder's Phthisis.*—It has long been known that of all unhealthy trades, none is equal in its ravages to that of the steel-grinder. The public attention has been for some time strongly attracted to the subject in Sheffield, by the miserable fate of the workmen of that class in the town; and, in conse-

quence, more accurate data have been supplied on the extent of the evil than in regard to any other trade in Britain. The whole information hitherto collected has been thrown by Dr. Knight of Sheffield into the form of an Essay, of which we shall here present an analysis.

The articles on which the Sheffield grinders are employed, are forks, awl-blades, fire-irons, razors, scissors, pen-knives, table-knives, large pocket-knives, files, joiners' tools, saws, sickles and scythes. Some of them use dry grind-stones only; others only wet grind-stones; others sometimes the one, sometimes the other. The total number in Sheffield is about 2500. They usually commence the employment at the age of fourteen, and, at this period, are, for the most part, raw-boned, uncouth, vigorous, hardy lads, apparently without any particular predisposition to pulmonary disorders. When their apprenticeship is concluded, in seven years, they generally proceed to work on their own account; but some are obliged to abandon the trade during their apprenticeship, being unable to stand the bad effects of the dust on the lungs. During the war a considerable number enlisted at an early age; but now, that this outlet no longer exists, they usually stick to their trade throughout life, though well aware of its fatal tendency.

Till the commencement of the last century, the grinders were not observed to be an unhealthy set of men; because they worked chiefly in the country, and mostly in large rooms open at the roof; they practised other departments of the cutlery trade at the same time, such as hafting and forging, and were consequently but a short time employed in grinding; and besides, they were often for months together only four or five hours a-day at work, on account of the scarcity of water, which alone then was used for driving the wheels. As trade increased, however, a greater subdivision of labour was introduced; in 1786 the steam-engine was substituted for water-power, and the grinders gradually became confined entirely to this employment, at which they worked eleven hours a-day, in the town, and in small rooms containing eight or ten stones, and frequently so many as sixteen workmen.

The consequences of this change of system on their health have been dreadful. The dry-grinders die between the age of twenty-eight and thirty-two; those who use both dry and wet wheels die at the age of forty, or forty-five at the utmost; and even the wet-grinders do not survive the age of fifty if they remain constantly at the trade. In 1822 it was ascertained, that among 2500 grinders of all classes, there were only thirty-five who had attained the age of fifty, and not above double that number who were forty-five; while among eighty adult fork-grinders, who use only dry stones, there was not a single individual thirty-six years old. The singular fact, too, appears to have been established, that the most industrious men were the shortest-lived, while the elderly men had in general led dissipated lives, so that even a combination of intemperance was advantageous, simply because it drew the workman in part from his fatal occupation. Some further statistical facts are supplied on the subject by Dr. Knight's experience as a medical officer of the Sheffield Infirmary; and they all tend towards the same conclusion. Among 250 grinders who had been in-patients and out-patients in Dr. Knight's department of the service between 1817 and 1830, 154 were received on account of pulmonary complaints; while among 250 persons of all other trades, 56 only had diseases of the respiratory system. Of the 154 cases of pulmonary disease among grinders, 13 died while under treatment in the establishment; while of the 56 pulmonary cases from other trades, only one died; showing not only that in the former pulmonary diseases are more common, but likewise that they are of a worse character. As to the respective ages of the 250 patients of the two classes, it appears that among the grinders 124 were above thirty, in other trades 140; above thirty-five, 83 grinders and 118 general tradesmen; above forty, 40 and 92; above forty-five, 24 and 70; above fifty, 10 and 56; above fifty-five, 4 and 34; above sixty, and 19.

According to Mr. Knight, the workmen almost invariably begin to suffer to-

wards the close of their apprenticeship. "Such," says he, "as are predisposed to pulmonary complaints soon begin to experience the injurious effects of grinding; and as at that time of life they are not too old to be put to other trades, they occasionally leave the wheel, and thus preserve both their lives and their health, while there more robust companions are sacrificing both. Grinders who have good constitutions seldom experience much inconvenience till they arrive at about twenty years of age. About that time the symptoms of their peculiar complaint begin to steal upon them; their breathing becomes more than usually embarrassed on slight exertions, particularly on going up stairs; their shoulders are elevated, in order to relieve their constant and increasing dyspnœa; they stoop forward, and appear to breathe most comfortably in the posture in which they are accustomed to sit at their work; namely, with their elbows resting on their knees. Their complexions assume a dirty, muddy appearance, their countenance indicates anxiety; they complain of a sense of tightness across the chest; their voice is rough and hoarse; their cough loud, and as if the air were driven through wooden tubes; they occasionally expectorate considerable quantities of dust, sometimes mixed up with mucus; at other times in globular or cylindrical masses enveloped in a thin film of mucus. Hæmoptysis frequently occurs." The expectoration commonly becoms purulent as the disease advances, and is occasioually fetid. Thickening of the larynx or trachea also occurs, with tenderness and cough on pressure. The pulse at first ranging from 80 to 90, subsequently reaches 120. About the age of thirty the dry-grinders are commonly forced to relinquish their employment; and the wet-grinders are compelled to do so likewise about ten years later. By this time the dyspnœa and sense of choking up of the lungs are urgent; the cough is incessant; dropsy is added to the other symptoms in many; the usual symptoms of advanced phthisis appear; and death at last ensues, but not till after many months, or even years of acute suffering. This course is occasionally modified by accidental circumstances, inducing acute bronchitis, pleurisy, and peripneumony; which diseases are always severe, obstinate, and intractable. The acute symptoms of the grinder's phthisis may be frequently subdued by early and proper treatment; and there is no doubt that they may be even effectually dispelled if the individual can quit his unlucky trade. Without this, however, the relief obtained is merely temporary.

The best treatment in the early stage consists in rest, emetics, leeches, antiphlogistic regimen, diaphoretics, mercurial alteratives, and saline aperients. Emetics in particular seem to procure immediate and great relief. In the second stage leeches, cupping, various counter-irritations on the chest and throat, digitalis, colchicum and squills are resorted to sometimes with advantage; and even in this advanced stage complete recovery may be brought about, if the trade is abandoned, as is shown by individuals regaining their health completely, and keeping it on entering the army.

Dr. Knight has had no opportunities of making any pathological observations on the state of the respiratory organs after death, as the grinders have had till lately a rooted aversion to morbid inspections He is inclined, however, to consider the disease as a general bronchitis merely.

Some years ago a great deal of attention was paid by the master cutlers at Sheffield to the mode of preventing the deleterious effects here pointed out; and in consequence various contrivances were suggested for preventing the dust from being diffused through the apartments of the workmen. Every plan, however, has turned out more or less defective, and Dr. Knight says that no precautions are now taken. Among the methods devised two deserve mention. In one the wheels were enclosed in boxes, the inside of which was kept moist; a sufficient space was left free over the stone for the men to apply the instrument to be ground, and a set of magnets were placed over the free space to catch the steel dust. This device, however, was found ineffectual, because the steel dust only was caught, which perhaps is not the most detrimental part of it; and the magnets required frequent cleaning, which the workmen could not be

trusted to perform. The other was a simpler and more efficacious method. The wheel being inclosed in a box as above, a wide tube extended from the box to the external air; and it was found that the rotatory motion of the air around the wheel produced a strong current, which carried much of the dust away by the chimney. This current was aided in its operation by a fan placed at the upper orifice of the chimney and moved by the steam-engine. It appears, however, that this ingenious plan does not remove the finer particles of dust, which are probably the most injurious; and the contrivance has consequently been generally abandoned. Dr. Knight very properly suggests that by further improvements, such as the establishment of proper fixed currents in the workshops, and the careful removal of the previous day's dust before the men begin their operations, the plan last mentioned may at length be made so far effectual as greatly to diminish the inconvenience; and that what remains may be counteracted by restricting the period of working. But he complains that after a few years of excitement, the subject no longer seems to interest either the workmen themselves, their masters, or philanthropists at large.—*Ed. Med. and Surg. Journal, July*, 1831, *and North of England Med. and Surg. Journal for August and November*, 1830.

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74. *Medico-legal Researches on Arsenic.*—M. Hunefeld, of Grifswald, has published some interesting observations on this subject, in the *Archiv. für Mediz.* Erfahrung v. Horn, Nasse und Wagner, for September and October, 1829.

It is known that after poisoning with small doses of arsenic, it often happens, that in examining the body, none can be found, if it has been interred some time. The question that naturally presents itself is, what becomes of it? The author, from experience, thinks that it can disappear in one of two ways.

1st. It may combine with the tissues, and thus escape the ordinary reägents. In this case, M. Hunefeld treats the animal matter, supposed to contain arsenic with chlorine, and, by this means, he has frequently discovered traces of poison, which he could not find by the ordinary reägents.

2d. The arsenic may exhale in the form of an arseniated hydrogen gas; the author recommends from this circumstance, that, in disintering bodies suspected of being poisoned by arsenic, that the lid of the coffin be not taken off at once, but that a hole be made first in it to avoid the deleterious effects of gas. —*Bulletin des Sc. Méd. Jan.* 1831.

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75. *Poisoning with a Tobacco-clyster.*—An interesting case of poisoning with a tobacco-clyster, is related by Dr. Grahl, of Hamburg, in *Hufeland's Journal*, for October, 1831. Not having yet received that Journal, we take the following notice of it from the *Edinburgh Medical and Surgical Journal.* The subject of the case was a female, twenty-four years of age, who was liable to dyspeptic symptoms and obstinate constipation, on account of which she had been for a few days under the care of the relater, and with considerable advantage. One day the patient's mother proposed that a tobacco-clyster should be administered, which Dr. Grahl peremptorily prohibited. Nevertheless, on the following day she took the advice of a female quack of her acquaintance, who recommended a clyster made with an ounce or an ounce and a half of tobacco, boiled for fifteen minutes in a sufficient quantity of water. In two minutes after it was administered, the patient was seized with vomiting, violent convulsions, and stertorous breathing, which gradually became weaker and weaker till she died, three-quarters of an hour after the clyster was administered. The following were the appearances remarked in the body, which was examined two days after death:—Great lividity of the back, slight lividity of the abdomen, retraction of its anterior parietes, paleness of the lips, firm closure of the jaws, flexibility of the joints. The omentum very red, without gorging of its veins; the small and great intestines, both outside and inside, gorged with blood and red; and in some parts of the mucous membrane extravasated bloody patches. The other abdominal viscera in a natural state; the great vessels of the abdomen

more empty of blood than usual; the stomach natural; the lungs pale red; the heart empty of blood in both sides; the brain quite natural, and without any accumulation of serosity in the ventricles.

MEDICAL STATISTICS.

76. *Half-yearly Report of Cases in Midwifery, which have occurred in the Northern District of the London and Southwark Midwifery Institution.* By C. Waller, Esq.

1831.	Number of Women delivered.	Sex of Children.		Born Alive.	Stillborn	Presentation.
		Males.	Females.			
January....	35	22	13	31	4	32 Natural 1 Foot 1 Premature 1 Face to Pubis
February..	27	16	11	25	2	Natural
March.....	35	18	17	34	1	34 Natural 1 Breech
April.....	29	12	17	25	4	28 Natural 1 Breech 1 Premature
May.....	41	20	21	37	4	39 Natural 1 Face to Pubis 1 Foot 1 Premature
June.....	38	24	15	39	0	37 Natural 1 Face to Pubis 1 Case of Twins
Total.....	205	112	94	191	15	

London Medical and Physical Journal, August, 1831.

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77. *Medical Statistics of Nantz.*—We find in the *Bulletin des Sciences Medicales*, for January last, a brief notice of an interesting memoir by M. Mareschal, on the mortality of the city of Nantz, contained in the Journal de la Section de Medicine, de la Societe Academique du department de la Loire inferieure, a journal we regret not yet having received.

The deaths from consumption in Nantz are one-tenth of the whole number, excluding those from epidemic diseases. The greatest mortality in phthisis occurs between the twentieth and fiftieth years of age.

Of the deaths from cerebral diseases, two-thirds are adults; but from hydrocephalus alone the deaths of children are to those of adults as twenty-two to three.

Of 64 deaths from apoplexy and paralysis, 7 only occurred in individuals below fifty years of age.

Organic diseases of the heart most frequently occur after the fortieth year of age, in the proportion of twenty-three to six.

The result of observations during twenty consecutive years, give the following as the succession of the months, arranged in the order of decreasing mortality, viz.—January, December, February, March, April, May, November, August, September, October, June, July. The months in the years 1827 and 1828, owing to the influence of epidemics, follow a different order.

CHEMISTRY.

78. *Odour of Musk.*—M. Bley has found that the golden sulphuret of antimony entirely deprives musk of its odour. The kermes mineral converts the peculiar odour of musk into an alliaceous one. This last may be important in a medico-legal point of view. Sulphur alone does not produce any changes.

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79. *Ilicine.*—At a meeting of the Royal Academy of Sciences of Paris, on the 23d of May last, M. Delechamps announced that he had succeeded in obtaining a new vegetable matter from the bark of the holley, to which he had given the name of ilicine, and which may be substituted for quinine in the treatment of intermittent fevers.

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80. *Analysis of Urinary Calculi.*—The Medical and Physical Society of Calcutta have adopted the excellent plan of printing minutes of their monthly meetings, with an abstract of the papers read, and sending it to their members and correspondents. We have been favoured by their learned secretary, W. Twining, Esq. who is known to our readers by his excellent papers on ophthalmology, with the minutes of their meeting of May last. We find in this the analysis of ten calculi by Mr. Twining. Of these, five consisted principally of lithic acid and lithate of ammonia—two of oxalate of lime—two of oxalate of lime with minute nuclei of lithic acid—one had a lithic acid centre and phosphate of lime exterior.

Mr. Burnard sent to the Society thirteen calculi, five of which consisted of lithic acid and phosphates—four of lithates and lithic acid—one fusible—one fusible and oxalate of lime with a trace of lithic acid—one oxalate of lime.

Mr. Brett presented seven calculi, four of which were composed of lithic acid and lithate of ammonia, with more or less of triple phosphate exterior—two of oxalate of lime with lithic acid nuclei—and one alternating, composed of lithic acid nucleus, thin lamina of oxalate of lime, then lithate of ammonia, and exterior of compact lithic acid.

"As far as the analysis of the calculi now before the Society will enable us to judge," says Mr. Twining, "the urinary calculi of natives of India, appear to be subject to the same laws in respect to composition and formation, as obtain among Europeans in our own climate. Lithic acid, and lithate of ammonia, predominate in the calculi that have been yet collected in India; and we observe, that lithic acid, or oxalate of lime, are the most common nuclei of urinary calculi amongst natives. Whether the deposition of these substances, originally depend on some local disease of the kidneys and urinary secretion, or on constitutional disorder, the lithates and oxalates appear to coalesce most readily so as to form the nuclei of calculi. Whereas the morbid excess of the phosphates, though frequently existing in the state of fine white powder, or white sand, and in most constitutions readily deposited whenever a nucleus is afforded, are rarely found to constitute the centre of calculi. But when any extraneous body is lodged for a considerable time in the bladder, a deposit of the phosphates readily takes place in preference to the lithates or oxalate of lime; more especially if the foreign body be rough, and the bladder in a state of irritation. After the deposit of those substances, lithates and oxalate of lime has gone on for some time, it appears to cease; but the requisites to form concretions of the phosphates existing, namely, nucleus and irritation, the exterior of many large urinary calculi are composed of those substances, which rarely form the nucleus."

MISCELLANEOUS.

81. *On Gelatine as an article of Nutriment.*—The discovery of M. D'Arcet, member of the Institute, of the means of preparing the gelatinous matter of bones, so as to form a cheap and wholesome article of food, has excited great attention in Paris. More than two years have elapsed since the discovery, and

the system of M. D'Arcet has been adopted in several of the hospitals, and in the *Maison de Refuge pour l'Extinction de la Mendicité* of M. de Belleyme. The gelatine has also been used in making sea-biscuits, which were used by the troops during the late expedition against Algiers. The mode of preparing both the gelatine and the biscuits is minutely laid down in the pamphlets published by M. D'Arcet. These experiments had invariably been attended with success; but on the 6th of June, M. Donné, a young medical student, communicated to the Royal Academy of Sciences at Paris, some remarks tending to throw a doubt on the subject. He stated, that being deeply impressed with the importance (particularly to the lower classes) of ascertaining whether the gelatine did really possess the nutritive qualities attributed to it by M. D'Arcet, he resolved to go through a series of personal experiments on the subject. With this view, recollecting that ten *grammes* of dry gelatine were stated to be equivalent to half a litre (about two basins) of the best meat broth, he began by taking that quantity every morning with three ounces of bread, and gradually increased the quantity up to fifty grammes, which constituted his sole nourishment up to six o'clock every day; the gelatine was differently flavoured, so as to prevent its exciting any feeling of nausea or disgust. During the six days which this experiment lasted, M. Donné experienced a constant sensation of sinking and feebleness, and on the sixth day found that he had lost two pounds weight. The next week he substituted ordinary meat broth for the gelatine, taking a litre and a half (about five or six bowls,) and from four to five ounces of bread daily; during this week he experienced no sensation of feebleness, and at the end of it had regained a pound and a half of his lost weight. At the same time M. Donné tried similar experiments on two dogs, giving the one, gelatine mixed with a little bread, and offering the other nothing but simple gelatine. The former at first refused it, but at length ate daily as much as was equivalent to twelve or fifteen half litres of good broth. On the sixth day the dog had lost four ounces in weight, and was so voracious that he even greedily devoured some white lead prepared for cleaning plate, and during the second week totally refused gelatine, living only on about an ounce and a half of bread which was given him per day. He ultimately terminated the experiment by climbing to a great height, and taking possession of a quantity of boiled beef which was supposed to be out of his reach. The other dog could not be prevailed on to touch the gelatine, even after being for five days totally without food. M. Donné, therefore, considered it cruel to pursue the experiment further, and gave him his usual food. From these circumstances, M. Donné was induced to doubt the nutritive qualities of gelatine, and begged the Academy to appoint a committee to investigate the subject, which was accordingly done. At the succeeding meeting (13th June) M. D'Arcet addressed some observations to the Academy on the subject alluded to by M. Donné; he stated that butchers' meat contained, on an average, in every 100 lbs.—Dry meat, 24 lbs.; water, 61; bone, 15, total, 100 lbs. Bones contain on an average—Earthy substance, 60 lbs.; gelatine, 30; fat, 10; total, 100 lbs.

From this calculation it is evident that the 15 lbs. of bone contained in every 100 lbs. of meat would furnish 40-100 of their weight, or 6 lbs. of animal substance, so that 100 lbs. of meat, which now furnish but 24 lbs. of dry meat, might, by rendering the gelatine and fat of the bones available, supply thirty, or in other words, four oxen would furnish as much alimentary substance as is now obtained from five. With respect to the nutritive and salubrious qualities of gelatine, he remarked, that the committee appointed by the Faculty of Medicine, consisting of MM. Le Roux, Dubois, Pelletan, Dumeril, and Vauquelin, after having given gelatine soup to forty patients and others, during a period of three months, came to the conclusions:—1. That the use of gelatine was both an amelioration, and a source of economy in the alimentary system. 2. That gelatine soup is at least as palatable as the ordinary hospital soup; and 3. That gelatine is nourishing, easy of digestion, and wholesome, and cannot in any manner, be productive of injurious effects on the animal economy. The apparatus in the hospital of St. Louis is capable of preparing nine hundred soups per day;

it has been in use twenty months, and has supplied 550,800 portions of gelatinous food. Numerous reports have been made on the subject to the general administration of the hospitals, all of which agree in stating that the change in the mode of nourishment is a decided improvement; that the convalescent patients acquire strength much more rapidly than before; that it is a source of economy highly important to the poor; that part of the meat formerly employed in making soup may now be given to the patients, either roasted or in other forms; and finally, they all recommend the adoption of the system of gelatinous nourishment in all similar establishments. At the Hôtel Dieu, 443,650 rations of gelatine have been furnished in fifteen months and a half; and six reports have been made, all of which are equally favourable with those above referred to. They state particularly that since gelatine has been employed, thirty killogrammes of roast meat may be given to the patients daily, without reducing the quality of the soup at all below its former standard.

When M. D'Arcet had concluded his remarks, M. Gay Lussac animadverted in strong terms on the injustice and insufficiency of the mode of experiments adopted by M. Donné, which he characterized as wholly inconclusive, although calculated to produce a most injurious effect on the public mind, which is always easily impressed with the idea that the poor are neglected, particularly in hospitals. He reminded the Academy that it was well known that no single substance was alone sufficient to support animal nature; that animals fed on sugar alone had died from inanition; yet it would not be pretended that sugar is destitute of nutritive qualities; and though the nutritive qualities of potatoes, taken with other food, are universally known, a dog fed wholly on that vegetable dies in six weeks; whereas M. Donné wishes it to be supposed that because two dogs refused to live upon gelatine, administered alone, we know not how, and because M. Donné himself grew thin on a sudden adoption of simple gelatine diet, the adjunction of gelatine, as an addition to, and taken in conjunction with animal food, is wholly without advantage. On the 20th of June, M. Donné replied to M. Gay Lussac, by saying that his sole object in proposing the quession was to have it fully and fairly investigated; since if it can be established that gelatine does possess the nutritive qualities ascribed to it, the advantage to the poorer classes will be immense; whereas, on the other hand, should they be induced to employ the bones as a means of nutriment, when the fact may turn out to be that the gelatine is not nutritious, their condition is rendered more deplorable than before. In conclusion, he said that he rendered full justice to the active and pure philanthropy of M. D'Arcet, which had induced him to make the greatest sacrifices both of time and money, in order to bring the gelatinous system to perfection.—*The Journal of the Royal Institution of Great Britain, August*, 1831.

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82. *Cholera.*—We had intended in the present No. to have given a summary of the present state of our knowledge in relation to this disease, and for this we have ample materials, the press having been extremely prolific in accounts of the progress and speculations on the nature and most successful mode of treating this scourge. We postponed it however for the purpose of making room for a review of a work which the profession have been anxiously expecting, and the sheets of which, as far as printed, we were favoured by the publishers with a copy of. After this review, however, was actually in type, the completion of the work having been unexpectedly delayed, we were compelled to postpone the review. This occurred at too late a period to permit us to arrange, in proper form for publication, our notes on cholera; and we can only at present state, that that disease was extending its ravages at the latest dates, and that the most contradictory statements are given respecting every point relating to its mode of propagation, nature, and best method of treatment. From this mass of conflicting testimony, we shall in our next No. endeavour to present as clear a view of the subject as a looker-on, who has no preconceived notions in relation to the subject, may take, after a careful examination of the statements on both sides.

AMERICAN INTELLIGENCE.

Remarks on the Climate of the Lower Country of South Carolina. By Thomas Y. Simons, M. D. Port Physician and late President of the Medical Society.—In an interesting essay on malaria in the last number of this journal, by Dr. Caldwell, I was surprised to observe the following observations in a note. "The low lands of the Carolinas, and I believe also of Georgia, are much healthier now than they were at the close of the revolutionary war. *The cause is obvious.* They are under higher cultivation. At the period referred to, white men could not labour in them and retain their health. Negroes were therefore necessary. But they are less necessary now. *In twenty or thirty years more, perhaps within a shorter period, they will not be necessary at all,*" &c.

It is my object in this communication to correct the error which Dr. Caldwell has so strangely fallen into. It is an observation of Cullen, "that there are more false facts than false theories in medicine," and my reading continually convinces me of the truth of the remark of that great physician.

The lower country of South Carolina, in place of being more healthy, is decidedly more sickly. Many situations where large families are reared, cannot now be inhabited during the summer and fall, except at the imminent risk of life. The reasons for this change are, I apprehend, these. 1st. That a great quantity of trees have been destroyed for clearing land for cultivation, for fences to enclose the land, and in some places for fuel to supply Charleston; and 2d, that the reservoirs, swamps, and ponds, with which the lower country of South Carolina abounds, remain stagnant, and in no manner drained. I concur with Dr. Caldwell, that wherever lands are well drained, and a proper dry culture is introduced, the healthiness of a country will be improved, and that the draining must be complete; but I deny that any such improvements in the lower country of South Carolina has occurred, or is, I fear, likely to occur. There are on the contrary many plantations, the residence of our ancestors, which are abandoned because the product of the land would not be equivalent to the expense of cultivation, and so far from being improved they have run to waste.

In our lower country there are many small villages located in the pine land, the soil of which is barren and porous, studded with pine trees, and remote from any large swamps or reservoirs, and the only manner in which health is here preserved is the caution used in preventing a single tree to be cut down, or cultivation of any kind to be carried on. Wherever this rule has been deviated from, the villages have become sickly. But no one thinks of residing on their plantations during the summer, while our elder planters and our ancestors did reside on their places, thus shewing that our country, in place of being more healthy, is actually more sickly, and in this assertion I am confident I will be sustained by the opinion of every medical gentleman in the lower country of South Carolina.

I shall now reply to the unauthorized conclusion to which Dr. Caldwell has arrived at, by a very illogical course of reasoning, viz. assuming false data. Dr. C. remarks that, "In twenty or thirty years more, perhaps within a shorter period, they (the negro slaves) will not be necessary at all. White men will do their work to greater advantage. By that condition of things, the abolition of slavery in our country will be greatly facilitated." Now this I unhesitatingly declare to be as incorrect a statement as could possibly be made. I am aware that some individuals from a false idea of philanthropy, are desirous of making the slaves free, to be miserable, even at the expense of the life and happiness of their fellow creatures the whites. In

their Quixotic crusade, they will listen neither to reason or truth. They will not believe that the condition of our slaves are better, incomparably better, than the negroes residing at the north, or the peasantry of Europe, and they gladly seize upon every opportunity of upholding the principle of universal emancipation, a principle noble in the abstract, but which never perhaps can be fully realized, unless at a sacrifice too great for the experiment to be made. Be this however as it may, it is evident that Dr. Caldwell's assertion is calculated to cherish the hopes of the abolitionists, and lead them to efforts which may be dangerous in their consequences. I therefore must ask your indulgence when I show the fallacy of the conclusion to which Dr. Caldwell has arrived.

I have already asserted, and my assertion will be borne out by the testimony of every physician of the lower country of South Carolina, that so far from the country becoming more healthy, it is actually becoming more sickly, and so far from any improvements being made by cultivation, that many places are deserted, and those plantations which are in the highest state of cultivation are too sickly for white persons to live on with impunity, because it is not, nor will be for centuries, practicable to clear off the immense reservoirs, swamps and ponds with which our lower country is filled. But supposing the country appropriated to dry culture should be so far improved and drained, what is to become of our extensive rice fields, and the large reservoirs which are necessary to flow the rice fields, and which are highly important? It is admitted by Dr. Caldwell, that rice culture is not suited to the healthiness of a country, a fact by no means new, and does he expect that South Carolina will give up this immense source of wealth? This idea is preposterous. It is evident, therefore, so long as rice is cultivated, so long will our lower country be sickly. Now it is known that during the summer and fall months, the negroes are most healthy, while the whites cannot live on rice plantations without early losing their lives or dragging out a miserable existence of disease. In short, while the negro is fat, glossy, and in full health, the white is pale, shrivelled, and dropsical. Many Europeans and northerners have attempted to reside during the summer on plantations as overseers, but have either died, or have had their constitutions broken, and the children who are born in the country, and live all the year on the plantations, are lazy and inactive, because their physical energies are exhausted from continual disease from infancy. They have immense spleens, and are pale and cadaverous, while the negroes who live in the country are infinitely more healthy than those who live in the city, and more so, I do not hazard too much in saying, than any class of labourers in the world.

These facts I defy any one to contradict, and I feel fully warranted in the assertion, that the lower country of South Carolina can never be cultivated by a white population; that it would be to them, under such an attempt, as the Pontine marshes of Italy were to the Italians, and like that once luxuriant spot, studded over with villas and palaces, it would be only the scene of pestilence, poverty, and desolation. It is not my intention to animadvert upon the essay of Dr. Caldwell, but believing it important that so serious an error, coming from such high authority, should be corrected, I have been induced to address the antecedent remarks to you.

Charleston, Sept. 22, 1831.

Notice of a Trial for Infanticide. By JOHN ANDREWS, M. D. (Communicated in a letter to R. E. GRIFFITH, M. D.)—The trial for infanticide, the result of which, in your polite communication of July 20th, you expressed a desire to be informed of, took place last week before the Supreme Court of Ohio, setting in Jefferson County.

I will briefly enumerate the *medical facts*, and give you the professional opinions based upon them, as they were almost the only evidence produced upon the trial.

In June last, the body of an infant female negro was discovered in the vault of the privy upon Mr. H.'s premises. A black woman employed in the family was

charged with being the mother. She at first denied, but afterwards acknowledged the fact, and said it was born the day before, that being a dead child, she did not wish to make a *noise* about it, and had laid it to one side over night, and thrown it into the privy about day-light that morning. This was between eight and nine o'clock, A. M. She was a married woman, had had several children, but she and her husband had been living apart for the last year.

Being removed from the vault, and slightly washed in cold water, the body presented these appearances. The placenta was attached to the umbilical cord, both of which had a perfectly natural appearance. The size of the child was that of one born at maturity; its physical organization, as far as was observed, being also entirely perfect. The head was round, the chest prominent, the abdomen free from tympanitis, and every other evidence of putrefaction. About the anus, there was observed some meconium. On one side of the upper part of the windpipe, there was several, and on the opposite side one curved mark, as if made by the nails of the thumb and fingers of an adult hand. These were confined to the cutis, had no appearance of ecchymosis about them, and were so like to, as to be confounded with an incision in the skin, with the point of a scalpel, *during the examination.*

Over the left malar bone, there was a small contusion, confined to the skin, accompanied with slight ecchymosis, into the cellular membrane beneath. The entire circle might have been covered with a copper. Over the left frontal protuberance, there was a similar contusion accompanied with about the same general appearances. Over the right eye-brow, there was a very small bruise, the size of a dime, free from any marks of *bloody* discolouration. Under the scalp, upon the pericranium, there was an extensive ecchymosis, extending between the fontanelles, and laterally half way down the parietal bones. It was posterior to both the external marks, and having no apparent connexion with or dependance upon them. The dura mater was closely adherent to the under surface of the cranial bones; the venous vessels of the pia mater engorged with blood; the substance of the brain presented no traces of lesion; the examination of the encephalon, however, was by no means so minute as was desirable. Within the trachea, no change of colour in the mucous lining, nor other morbid change, was noticed.

On opening the thorax, its viscera presented a natural aspect. The lungs were reddish; when cut into, dark blood appeared in spots, and might be squeezed from the incision. In cutting through the root of one lung, considerable dark blood ran from the pulmonary vessels. The entire lung, and sections of it, floated lightly upon water of the temperature of the atmosphere in the shade, both before and after compression in the hand. By the mode of opening the thorax, the form of the diaphragm was lost. The abdominal viscera were healthy, and free from the slightest marks of putrefaction; the colon contained some meconium; the bladder was rather softer to the touch than when it has been known to contain urine, but was not examined within. The vena umbilicalis contained a little blood.

Drs. Judkins, Leslie, Dickson, and Andrews, being sworn, testified to the above facts. From them, they had no doubt of the child's having *breathed;* but this might, and did frequently occur, before the delivery even of the head, and was of every day's occurrence, when the head only had passed the os externum, the shoulders and body being retained within the organs of the mother.

As to the question, whether the death of the child was caused by violence? Dr. Judkins was of opinion, that the violence producing the marks upon the head, was sufficient to produce death, which it had done, as he supposed, by concussion of the brain. Dr. Leslie entertained the opinion that death had been produced by strangulation, as he had seen as severe injuries upon the head of a new-born child from the application of the forceps, without causing death.

Drs. Dickson and Andrews, regarded all the morbid appearances as equivocal; that upon the face and os-frontis were evidently the result of force applied

during the life of the child, but even when then made, they were not sufficient to cause death. They exhibited no lesion of any vital organ. The large ecchymosis might readily occur in the delivery, without any agency on the part of the mother. Cerebral concussion might have taken place, and even caused the death of the child, but this could not be demonstrated. Concussion left no trace behind it. Strangulation was not to be assigned as the cause of death, in the absence of those traces which it leaves upon the body, as we are told, in every case. It was quite possible, in their opinion, for all these marks to have been produced by the attempt of the mother to deliver the body of the child, rendered difficult sometimes by the great size of the shoulders, or the abatement of uterine contraction, occurring singly or together. It is not uncommon for women, in the pangs of labour, to throw their body in many postures, and to attempt to assist themselves by the use of their hands. On the whole, the marks upon the body, they thought, should be looked upon as strongly *suspicious*, but as wanting confirmation from other sources, to make out the murder.

The other evidence brought forward not being pointedly confirmatory, the court stated to the jury that they ought not to convict in a case of this kind without the most unequivocal proofs of guilt, and they did not hesitate to say, in the present case, that the evidence was insufficient to convict.

The Jury acquitted the prisoner.

Steubenville, Ohio, Oct. 1831.

Case of Great Abdominal Disorganization—Death by Apoplexy. By Richard D. Moore, M. D. one of the House Physicians of the Philadelphia Alms-house.—Martin M'Donna, aged thirty-seven years, tall, remarkably pale, and somewhat emaciated, was admitted into the men's medical ward of the Philadelphia Alms-house, on the afternoon of the 14th of October, 1831. He was so much exhausted, that I did not deem it proper to fatigue him by asking any questions regarding the history of his disease, but ordered him to bed, and permitted him to rest, giving him occasionally a drink of wine and water. His friends could give me no satisfactory account of him—they only know that he had been complaining for several months.

I saw him again in a few hours; he had had some sleep, felt more composed, had little or no pain, his skin warm, his pulse a little fuller, but still weak and very compressible, tongue moist and red in the centre, edges pale. I now attempted, but without success, to obtain from him a satisfactory history of his case; he became fatigued, and appeared to be confused in his memory; I could only learn that he had had a dysentery for more than two months, that he had suffered much on going to stool, and sometimes he would be compelled to go as often as thirty times in the twenty-four hours; discharges very small, and occasionally mixed with blood; that he was principally troubled at night. I could learn nothing of the first symptoms: the only object, therefore, I have in drawing up this case, is to represent the manner in which he died, and the post mortem appearances.

7 o'clock, P. M. He was now in much pain; his bowels open every twenty or thirty minutes, discharges very offensive, and consisting of mucous tinged with blood, and a few dark collections resembling slate dust. Ordered injections of mucilage made of *Ulmus americana*, with tinct. opii, gtt. xxx. this to be repeated every hour, and every second hour add sulph. zinc. grs. iv.; his abdomen rubbed with vol. linim. every thirty minutes; wine whey every hour, and as a common drink, viz. ℞. Ulm. americ. ℥i.; pulv. g. acac.; pulv. tragac., pulv. salep, āā. ℈i.; sacch. alb. ℥ss. Boiling water, a pint; half given every hour. 10 P. M. Easy. Blister to abdomen, extending over the region of the colon.

15th. This morning felt better, and expressed a wish for something to eat; his pulse very weak and small; skin pale, and disposed to be cold; his tongue dry, and his voice feeble. Continued the injections, with increase of tinct. opii, gtt. xl.; the discharges not so frequent last night as usual, nor were they so painful. Continue mucilaginous drink and wine whey as before, and a table-

spoonful every two hours of the following:—℞. Cret. prep. ʒiii.; tinct. opii, ʒii.; simp. syrup. ʒss.; aqua cinna. ʒi.; mucilage acac. ʒiv. 3 o'clock, P. M. Felt a little head-ache, and became drowsy. Ordered warm foot-bath.

16*th*. This morning no head-ache; his pulse the same as yesterday; face still pale, though some fever, skin being hot and dry; tongue a little moist. Stop wine whey, and continue the treatment of yesterday; bowels opened eight or nine times through the night; pain not so great. 7 P. M. Skin cold; pulse sinking; could not speak aloud. Mustard to extremities, and hot brandy toddy occasionally.

17*th*. A little better; discharges not so frequent; pulse a little fuller, but weak; skin moist, and warm; tongue moist. Ordered to continue same treatment with a spoonful of the essence of beef every three hours.

18*th*. Slept tolerably well last night; this morning very weak; discharges increased, or rather the desire to evacuate, the matter discharged very offensive, and of dark watery consistency. Ordered pulv. opii, grs. vi. ft. pil. introduced into rectum. Continue same treatment, suspending the injections until the pill had been discharged. 3 o'clock, P. M. Had an apopleptic fit which continued for fifteen minutes. It returned at 4, or a little after, and he died in a few minutes.

Post mortem examination, twelve hours after death.—Head. A good deal of congestion in the scalp, principally venous. Dura matter healthy, but distended on the right side, caused by a coagulation of effused blood between the membrane and the arachnoid, extending from the middle of the frontal bone to the right leg of the lambdoidal suture, and from the petrous portion of the temporal bone to the sagittal suture. This coagulum was near a quarter of an inch thick; the blood, dark venous. Upon a minute examination with the naked eye, no rupture of any vessel could be discovered. The substance of the brain a little congested. The ventricles half filled with bloody serum. The cerebellum and medulla oblongata, healthy.

Thorax. Contents of this cavity healthy.

Abdomen. The peritoneum much thickened, and of a dirty white colour; that portion covering the colon hard, and in some of its folds contained a fluid resembling milk.

Stomach. Mucous membrane thickened, and in places intensely red, particularly the cardiac extremity. Contents of glairy mucus.

The *duodenum* pretty much as the stomach, as regards its colour, but the mucous membrane was not thickened. The small intestine healthy, with the exception of the lower extremity, which was inflamed. Contents yellow, and not quite the consistence of soft soap.

Colon. So entirely changed, as scarcely to be recognised, being in some places half an inch thick, and in others one or two lines more; its feel was hard and indurated, resembling gravel, under the peritoneum. It was opened its whole length; the mucous membrane of the upper portion, about two-thirds, thickened three lines, the remaining third was entirely disorganized, and must have been insensible before death, or nearly so. The upper portion contained ulcers, some as large as a quarter of a dollar, elevated, and of a dark gray colour; smell being offensive; the lower portion of the colon, and the upper portion of the rectum, resembled very much an ulcerated cancer. In dissecting the coats thus thickened, I found several tubercles, having every appearance of recent tubercles of the lungs; some were softened and contained pus.

The *liver* was of the natural size, but tuberculated near its surface, not much injected; gall-bladder filled with bile, very thin, and of a greenish colour; the coats of the bladder healthy.

Spleen. Enlarged to near twice its natural size, softened to the consistency of soft soap.

Pancreas hard, and changed in colour, being darker than natural.

Kidneys and urinary bladder healthy.

Case of Aneurism of the Brachial Artery, cured by Compression. By J. W. Heustis, M. D. of Cahawba, Alabama.—On the 27th of August, I was called to visit the wife of M. M. who was represented as having a swelling or rising on the arm, in consequence of bleeding. On arriving, I found that a large and diffused aneurism had formed at the bend of the arm. The tumour occupied a diameter of about three inches, with a projecting pulsating apex, over which the skin was extremely thin, and through which the blood could be distinctly perceived whizzing and thrilling at every pulsation. The pain of the limb was excessive, so that for the last three or four days, sleep had been entirely prevented. The history of the case was as follows:—The woman was in the advanced stage of pregnancy, and to relieve the usual unpleasant symptoms occurring on such occasions, recourse was had to venesection. The operation was performed by a neighbouring farmer, an old gentleman, destitute of scientific knowledge, but whose experience in that line had been considerable, and hitherto successful. The nature of the accident, however, remained unknown; nor, although there was considerable difficulty in stopping the bleeding, was it supposed that any alarming or extraordinary occurrence had taken place. The external orifice healed, and the woman, who was in the lower circumstances of life, resumed her usual domestic occupations, which were rather laborious and fatiguing. In a few days, a throbbing tumour made its appearance at the place where the operation of bleeding had been performed. For several weeks this produced but little uneasiness, and therefore received but little attention. At length, however, from a small, compressible, circumscribed tumour, a diffused hardness and swelling took place, occupying nearly the whole bend of the arm. Great pain and lameness now ensued, and the limb was deprived of the power of muscular exertion.

Such was the situation of the patient when I saw her. I immediately explained the nature of the case and accident, and informed the family of the necessity of an immediate operation. The patient wept and shuddered at the cruel alternative, though had I been urgent, she would have finally submitted. She was within a few days of her confinement, and it was dreaded that an operation at the time might have had an unfavourable effect upon her situation. I therefore told them that there was another, though a doubtful expedient; that no injury could result from its trial, although I apprehended that the case was too far advanced to admit of any permanent relief being obtained in any other manner than by taking up the artery. At least it was hoped that time might be gained, so as to postpone the operation till after the accouchement. The expedient proposed was compression; this was, therefore, acceded to, though on the part of the husband with the apprehension, that the expense of another visit, and an operation, must be finally submitted to.

I now proceeded to make compression on the aneurism and brachial artery, in the following manner. I took two twelve and a half cent pieces, and a twenty-five cent piece, and wrapped them in a rag, so as to prevent their slipping. I then made a thick linen compress, and wet it with a solution of sugar of lead; this, with the silver next the tumour, I applied over the aneurism, and secured by a bandage, as in cases of tying the arm after ordinary venesection, but much firmer and more securely, by repeated turns of the bandage above and below the elbow. Having applied the necessary degree of pressure in this manner to the aneurism, I proceeded also to make a degree of compression upon the brachial artery; for this purpose, another thick compress, four or five inches in length, wet with the saturnine solution, was laid along the course of the artery, and bound down with some degree of firmness by numerous turns of a tolerably broad bandage. This last application was for the purpose of diminishing the impetus of blood into the aneurismal tumour. Upon applying my fingers to the radial artery, I found that its strength and force was considerably lessened. I now left the patient, with directions to see that the bandage did not become too loose, and if so, to reädjust it with such a degree of tightness as she could endure without much pain. I neither saw nor heard from the patient till the

expiration of a month. I then saw her husband, who expressed many acknowledgments, stating that my directions had been faithfully followed, and with the most fortunate success; that the swelling had almost entirely disappeared; and that the pain of the arm had ceased; that his wife had commenced using her hand, and considered herself almost completely well; although for fear of a return of the aneurism, the bandage was still retained.

I had previously found the efficacy of pressure, in a wound of an artery from bleeding. This happened in my own practice, in the case of a negro woman. The scarlet arterial blood flowed out *per saltum*. With some alarm I was in haste to tie up the arm, which I did with a compress over the wounded vessel in the manner above described. A firm pressure was in this manner applied, until the orifice had healed; which it did in the ordinary time after vesication, without any disposition to the formation of an aneurism.*

The manner in which pressure operates in the cure of aneurism, appears to admit of easy explanation. It has been proved by experiment and observation, that in tying an artery a coagulum of blood is found immediately behind the ligature, filling up the calibre of the artery, so that were the ligature removed after the formation of this coagulum, no hæmorrhage would or could take place. Now in the case of a wound or rupture of an artery, the blood escapes from the vessel, and continues to distend the sheath, and cellular substances surrounding it, forming a coagulum exterior to the wounded artery, but of no avail in preventing the exit of arterial blood. If, however, the force of the blood can be impeded, and its gush from the wounded orifice suppressed, a coagulum is found in the immediate vicinity of the wound, and an opportunity thereby given for the healing of the latter.

Although several cures of compression have been related in cotemporary journals, still such instances are looked upon as extraordinary, and rather accidental, and not sufficient to warrant the practice as being generally applicable and expedient. From the cures, however, that have been effected in this manner, I think we are fully and more than authorized in its employment, in all cases of brachial and popliteal aneurism, or whenever the contiguity of a bone affords sufficient resistance for its application. It is true, that in the hands of ignorance and incompetence, such practice might be productive of serious and dangerous consequences; but for sacrilegious assumption and intrusion, licensed and unlicensed butchery and murder, this advice is not intended; the field of their operation is already sufficiently extensive, without opening new avenues for death.

In the Philadelphia Journal of Medical and Physical Sciences, No. 4, new series, p. 363, the reader may find a variety of ingenious contrivances for making compression in cases of brachial aneurism, by W. B. Fahnestock, M. D. and among others a kind of truss, fitted to the arm with an elastic steel spring, on the principle of the common truss for scrotal hernia. Dr. F. reports a case of brachial aneurism successfully treated by the application and use of this machine. A contrivance of this kind may be found advantageous, although I have experienced no difficulty in retaining to its place, and with sufficient accuracy and firmness, the common bandage previously mentioned.

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Treatment of Ununited Fracture with the Seton.—In a former No. of this Journal, (Vol. VII. p. 267,) we gave a summary of the cases of ununited fracture treated by the seton, to be found in the works within our reach at the moment. Our valued collaborator, Dr. A. F. Vache, of New York, writes to us that in addition to the cases there enumerated, Dr. Mott has treated eleven cases of ununited fracture by that remedy. Of these, three were of the os femoris, three of the tibia, and five of the humerus. In all of these it succeeded

* We have had a case entirely similar to this; and after much consideration we have been led to doubt, from the result, whether the artery was actually wounded—the only evidence being the colour of the blood and its flowing per saltum. The patient was suffering extreme agony from rheumatism of the heart, and in that disease it is not, we suspect, very uncommon, when a vein is opened, for the blood to exhibit the arterial colour and to flow per saltum.—*Ed.*

perfectly, except in three of the last mentioned, and which were afterwards cured by sawing off the ends of the bone.

We have also recently met with, in the seventh volume of the New England Medical Journal, an account of a case of ununited fracture of the humerus, successfully treated by the seton, by Robert Thaxter.

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Operation of Lithotomy.—This operation has been performed on the venerable Chief Justice of the United States, by Professor Physick, with his usual skill. The operation was somewhat protracted, from the immense number of calculi, between eight hundred and one thousand, contained in the bladder. These calculi varied in size from that of a pea to that of a pin's head. We are happy to announce that at the present moment, two weeks since the operation, the patient is doing extremely well, and there is every prospect of his valuable life being prolonged many years. We have been promised the details of the case for a future number.

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Goupil's Exposition of the Principles of the New Medical Doctrines.—We congratulate the profession on the appearance of Dr. Nott's translation of this work. A review of the original will be found in Vol. VIII. p. 156, et seq.

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On Baths and Mineral Waters.—An elaborate work on baths and mineral waters, by Dr. John Bell, has just been published. We received the work too late to be able to do more than just glance at its contents, but we know that the author has paid great attention to the subject, and have no doubt that he has collected a large amount of valuable and interesting information in relation to it.

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Dr. Peixotto's Address.—We have read with great pleasure the address delivered before the Medical Society of the city and county of New York, on the 25th of July, 1831, by D. L. M. Peixotto, M. D. President of the Society. The learned author gives an interesting though brief sketch of the medical history of the state of New York, and offers some judicious suggestions for the improvement of the condition of the medical profession.

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Faraday's Chemical Manipulation.—An edition of this work, with notes and additions by Dr. J. K. Mitchell, has just been issued by Messrs. Carey & Lea. We have met with no other work containing such a mass of useful information on the practice of experimental chemistry. It is an invaluable laboratory companion.

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Essays on the Materia Medica.—Mr. G. W. Carpenter having been frequently called upon by his medical friends for copies of his papers published in the Philadelphia Journal of the Medical and Physical Sciences and in this Journal, has been induced to republish them, with an account of the new proximate principles, the popular remedies lately introduced into practice, the formulæ for their preparation, &c. &c. The whole are comprised in a small volume, which will no doubt be an acceptable present to the country practitioner.

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Louis on Gastro-Enteritis.—Dr. F. M. Robertson, of Augusta, Georgia, has in preparation a translation of this interesting work.

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University of Pennsylvania.—At an adjourned meeting of the trustees, held October 21, 1831, the following report was made, and the resolution attached thereto adopted, with instructions to the secretary to communicate a copy of the same to Professor Physick, and to the medical faculty.

University of Pennsylvania, 21st October, 1831.

The committee to whom was referred, on the 14th inst. the resolutions of the medical faculty, respecting the resignation of Professor Physick, fully coïnciding with the views and feelings expressed by the faculty, beg leave to recommend to the board of trustees the adoption of the following resolution:—

Resolved, that in consideration of the important services rendered to the Medical Department of the University by Professor PHILIP SYNG PHYSICK, in the chair of Surgery as well as of Anatomy, during a period of twenty-six years, and for the purpose of continuing his connexion with the school, to the fame and usefulness of which he has so largely contributed, there be conferred on the said PHILIP SYNG PHYSICK, the honorary appointment of Emeritus Professor of Surgery and Anatomy in this University.

From the minutes.

(Signed,) JAMES C. BIDDLE, *Secretary, &c.*

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Boylston Medical Prize Questions.—The Boylston Medical Committee of Harvard University, give notice that the following Prize Questions for the year 1832, are before the public, viz.

1st. "What is the cause of Fistula Lachrymalis, and what is the best mode of treating the disease?"

2d. "What are the circumstances in which the drinking of cold water in hot weather proves injurious? What are the diseases which arise from this cause, and what is the best mode of treating these diseases?"

Dissertations on these subjects must be transmitted, post paid, to JOHN C. WARREN, M. D. Boston, on or before the first Wednesday of April, 1832.

The following questions are now offered for the year 1833, viz.

3d. "The History of the Autumnal Diseases of New England."

4th. "What insects of the United States, and particularly in the northern part, are capable of inflicting poisonous wounds? The phenomena of such wounds, and the best mode of remedying their ill consequences?"

Dissertations on these subjects must be transmitted as above, on or before the first Wednesday of April, 1833.

The author of the successful Dissertation on either of the above subjects, will be entitled to Fifty Dollars, or a Gold Medal of that value, at his option.

Each Dissertation must be accompanied with a sealed packet, on which shall be written some device or sentence, and within shall be enclosed the author's name and place of residence. The same device or sentence is to be written on the dissertation to which the packet is attached.

All unsuccessful dissertations are deposited with the secretary, from whom they may be obtained if called for within one year after they are received.

By an order adopted in the year 1826, the Secretary was directed to publish annually the following votes, viz.

1st. That the Board do not consider themselves as approving the doctrines contained in any of the dissertations to which the premiums may be adjudged.

2d. That in case of the publication of a successful dissertation, the author be considered as bound to print the above vote in connexion therewith.

Boston, August 10th, 1831. GEO. HAYWARD, *Secretary.*

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Medical College of South Carolina.—Dr. E. GEDDINGS has been elected Professor of Pathology in this institution, and Dr. WAGNER Professor of Surgery, in the room of Dr. RAMSAY, resigned.

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University of Maryland.—Dr. T. H. WRIGHT has resigned the Professorship of Anatomy in the medical department of this university, and Dr. E. GEDDINGS of Charleston has been elected to fill that chair.

QUARTERLY

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